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had been so great, that if he could succeed in raising $6000 in this city he would be able to sail this year.

May 29*th*.

Mr. Lea, President in the Chair.

Thirty-eight members present.

The report of the Biological Department was presented.

The following resolution, presented by Dr. Leidy on behalf of the Curators, was adopted,

Resolved, That the Publication Committee and the Committee on Proceedings, be authorized to exchange as much of the Journal and Proceedings of the Academy as can be spared, for the suite of Palæozoic fossils, which have been offered by Mr. J. N. H. Barris.

The following papers were, on the report of the Committees to whom they had been referred, ordered to be published in the Proceedings.

Notes on American Land Shells. No. 6.

BY W. G. BINNEY.

The Catalogue of the Terrestrial Mollusks of North America, commenced in the Proceedings of the Academy for November, 1858, and continued in the number for July, 1859, is here completed. The list is believed to contain all the species described as inhabiting Mexico. I have followed the systematic arrangement of Drs. Gray and Pfeiffer in grouping the genera, and the decisions of the latter in regard to the synonymy.

Many Central American species will undoubtedly be added to the list when their geographical range is better known. The species of the Pacific coast, included in the first section of the Catalogue, are omitted here, viz.: Nos. 3, 7, 8, 11, 23, 25, 35, 37, 39, 40, 41, 42, 43, 45, 46, 47.

For additional species, changes of nomenclature, &c., &c., of the section of the United States, see Boston Journal of Natural History, vol. vii., and the Remarks on North American Helicidæ by Mr. T. Bland, in Annals of New York Lyceum of Natural History, vol. vi.

Familia TESTACELLIDÆ.

Glandina.

248. G. candida (*Achatina*) *Shuttl.*, *Pf.* (*olim.*)
Oleacina candida Gr. et Pf., Pf.

249. G. Carminensis *Mor.*, *Ads. Gen.*
Achatina Carminensis Desh. in Fer., Pf. (olim.)
" *rosea* var. Rve. (46 b.)
Oleacina Carminensis Gr. et Pf., Pf.

250. G. conularis (*Oleacina*) *Pf.*
Achatina conularis Pf. (olim.)

251. G. Cordovana (*Oleacina*) *Pf.*
Achatina Cordovana Pf. (olim.)

252. G. corneola *W. G. Binn. vid.* 202.

252*a*. G. delicatula (*Achatina*) *Shuttl.*, *Pf.* (*olim.*)
Oleacina delicatula Gr. et Pf., Pf.

253. G. Ghiesbreghti (*Achatina*) *Pf.* (*olim.*)
Oleacina Ghiesbreghti Pf.

253*a*. G. indusiata *Pf.*

254. G. Isabellina (*Achatina*) *Pf.* (*olim*), *Rve.*
Oleacina Isabellina Gr. et Pf., Pf.

255. G. Liebmanni (*Achatina*) *Pf.* (*olim*), *Chemn.*
Achatina striata Rve. (19.)
Oleacina Liebmanni Gr. et Pf., Pf.

256. G. margaritacea (*Achatina*) *Pf.* (*olim.*)
Oleacina margaritacea Pf.
256*a*. G. monilifera (*Achatina*) *Pf.* (*olim*), *Rve.*
Oleacina monilifera Gr. et Pf., Pf.
257. G. nana (*Achatina*) *Shuttl.*, *Pf.* (*olim.*)
Oleacina nana Gr. et Pf., Pf.
257*a*. G. Orizabæ (*Achatina*) *Pf.* (*olim.*)
Oleacina Orizabœ Pf.
258. G. pulchella (*Oleacina*) Pf.
259. G. solidula (*Achatina*) *Pf.* (*olim*), *Chemn.*, *Rve.*, *Desh. in Fer.*
Polyphemus solidulus Pf. (olim.)
Glandina solidula Pf., (olim), Phil.
" *folliculus* Gld. (teste Pf.)
Oleacina solidula Gr. et Pf., Pf.
var. *Glandina paragramma* Mor.
260. G. Sowerbyana (*Achatina*) *Pf.* (*olim*), *Rve.*
Oleacina Sowerbyana Gr. et Pf., Pf.
261. G. speciosa (*Achatina*) *Pf.* (*olim.*)
Oleacina speciosa Pf.
262. G. stigmatica (*Achatina*) *Shuttl.*, *Pf.* (*olim.*)
Oleacina stigmatica Gr. et Pf., Pf.
263, G. Vanuxemensis *Lea*, *vid.* 206.

Familia HELICIDÆ.

Vitrina.

264. V. Mexicana *Beck.*

Simpulopsis.

265. S. Chiapensis *Pf.*
266. S. Cordovana *Pf.*
267. S. Salleana *Pf.*

Succinea.

268. S. brevis *Dunk.*, *Pf.*, *Chemn.*
269. S. undulata *Say*, *Pf.*, *Chemn.*

Helix.

270. H Ariadnæ *Pf.*, *vid.* 79.
271. H. Berlandieriana *Mor.vid.* 84*a*.
272. H. bicincta *Pf.*, *Chemn.*, *Phil.*
273. H. bicruris *Pf.*
274. H. bilineata *Pf.*, *Chemn.*, *Rve.*
H. zonites Rve. 615.
275. H. caduca *Pf.*, *Rve.*, *Chemn.*, =290?
276. H. Chiapensis *Pf.*
277. H. coactiliata *Fer.*
278. H. contortuplicata *Beck.*
279. H. Cordovana *Pf.*
280. H. Couloni *Shuttl.*, *Pf.*
281. H. flavescens *Wiegm.*, *Pf.*, *Chemn.*
282. H. fulvoidea *Mor.*, *Pf.*
283. H. Ghiesbreghti *Nyst.*, *Pf.*, *Rve.*, *Chemn.*, *Desh. in Fer.*
284. H. griseola *Pf. vid.* 113,
285. H. Guillarmodi *Shuttl.*, *Pf.*, *Chemn.*, *Rve.*
286. H. helictomphala *Pf.*
287. H. Hindsi *Pf. vid.* 117.
288. H. Humboldtiana *Val.*, *Pf.*, *Chemn.*, *Rve.*, *Desh. in Fer.*, *Phil.*
H. Buffoniana Pf., Phil., Chemn., Fer., Rve., Binn.
H. badiocincta Wiegm.
289. H. implicata *Beck.*
290. H. lucubrata *Say*, *Pf.*, *nec Binn. vid.* 275.
291. H. Mexicana *Koch.*, *Chemn.*, *Pf.*
292. H. Oajacensis *Koch.*, *Chemn.*, *Pf.*
293. H. plagioglossa *Pf.*
294. H. Salleana *Pf.*, *Rve.*, *Chemn.*
295. H. stolephora *Val.*, *Pf.*, *Chemn.*, *Desh.*, *Rve.*
Helicella bupthalmus Fer.
Helix Lamarkiana β. Pf.
Nanina stolephora Pf., Gr. et Pf.
" *bicolor* Pf. (olim.)
296. H. tenuicostata *Dunk.*, *Chemn.*, *Rve.*, *Pf.*.
297. H. Texasiana *Mor. vid.* 170.
298. H. trypanompala *Pf.*
299. H. Veracruzensis *Pf.*
300. H. zonites *Pf.*, *Rve.*, (*excl.* 615.)
Nanina zonites Gr.

Bulimus.

301. B. alternatus *Say*, *vid.* 182.

302. B. attenuatus *Pf., Chemn.*
303. B. aurifluus *Pf.*
304. B. Cordovanus *Pf.*
305. B. coriaceus *Pf.*
306. B. costatostriatus *Pf.*
307. B. Droueti *Pf.*
308. B. Dunkeri *Pf., Rve.*
309. B. emeus *Say, Pf.*
310. B. fenestratus *Pf., Rve., Phil.*
311. B. gnomon *Beck.*
312. B. Gruneri *Pf., Rve., Chemn.*
313. B. Hegewischi *Pf., Rve.*
314. B. Humboldti *Pf., Rve.*
  B. Mexicanus Val., nec Lam.
  var. *β*.
  var. *γ*. *Bulimus primularis Rve., Pf.* (olim.)
  var. *δ*.
  var. *ε*.
315. B. livescens *Pf., Rve., Phil.*
316. B. Mariæ *Albers*, =183.
317. B. Martensi *Pf.*
318. B. Mexicanus *Pf., Rve., Deless., Desh. in Lam.*
  Cochlogena vittata Fer.
  Orthalicus? Mexicanus Carp.
318*a*. B. patriarcha *W. G. Binn.*
319. B. punctatissimus *Less., Rve., Pf., Chemn.*
  Clausilia punctatissima Less.
  " *exesa* Pot. et Mich.
  Auricula fuscagula Lea.
  Pupa septemplicata Muhlf.
  Bulimus fuscagula Orb.
  " *septemplicatus* Pf. (olim.)
  " *dentatus* King?
  Cochlodrina exesa Fer.
320. B. rudis *Anton, Rve., Pf.*
321. B. Schiedeanus *Pf. vid.*193.
322. B. serperastrus *Say., Pf., Chemn.*
  var. *β*. *Bulimus Liebmanni* Pf.
  " *Ziebmanni* Rve.
  " *serperastrus* var. *Chemn.*
  var. *γ*. *Bulimus nitelinus* Rve.
323. B. sulcosus *Pf., Phil., Rve.,*
  B. hyematus Rve.
324. B. sulphureus *Pf.*
325. B. truncatus *Pf., Rve., Phil.*
326. B. varicosus *Pf., Chemn.*

SPIRAXIS.

327. S. acus *Shuttl., Pf.*
328. S. auriculacea *Pf.*
329. S. biconica *Pf.*
330. S. catenata *Pf.*
331. S. coniformis *Shuttl., Pf.*
332. S. dubia *Pf.*
333. S. euptycta *Pf.*
334. S. irrigua *Shuttl., Pf.*
335. S. lurida *Shuttl., Pf.*
336. S. mitræformis *Shuttl., Pf.*
337. S. Nicoleti *Shuttl., Pf.*
  Achatina Nicoleti Chemn.
338. S. nigricans *Pf., Shuttl.*
  Achatina nigricans Pf. olim, Rve., Desh. in Fer.
  Glandina nigricans Pf. olim.
339. S. oblonga *Pf.*
340. S. parvula *Pf.*
341. S. Shuttleworthi *Pf.*
342. S. streptostyla *Pf.*
  Achatina streptostyla Pf. olim, Chemn.
343. S. turgidula *Pf.*

ORTHALICUS.

343*a*. O. Boucardi *Pf.*
344. O. livens *Pf., Bk., Shuttl.*
345. O. longus *Pf.*
  Bulimus zebra β. Pf. (olim.)
346. O. undatus *Brug. vid.* 196.

ACHATINA.

347. A. ambigua *Pf.*
348. A. Chiapensis *Pf.*
349. A. Rangiana *Pf., Rve.*
350. A. trochlea *Pf., Chemn.*
351. A. trypanodes *Pf.*

CYLINDRELLA.

352. C. apiostoma *Pf.*
352*a*. C. arctispira *Pf.*
353. C. attenuata *Pf., Chemn.*
354. C. Boucardi *Pf.*
355. C. clava *Pf., Chemn.*
355*a*. C. cretacea *Pf.*

356. C. decollata *Nyst.* (*Pupa*), *Pf.*, *Chemn.*
357. C. denticulata *Pf.*, *Chemn.*
358. C. filicosta *Shuttl.*, *Pf.*, *Chemn.*
359. C. Ghiesbreghti *Pf.*, *Chemn.*
360. C. goniostoma *Pf.*, *Chemn.*
360*a*. C. grandis *Pf.*
361. C. Liebmanni *Pf.*, *Chemn.*, *Phil.*
361*a*. C. Mexicana *Cum.*
362. C. Pfeifferi *Menke*, *Chemn.*, *Phil.*
363. C. Pilocerei *Pf.*, *Chemn.*, *Phil.*
364. C. polygyra *Pf.*, *Chemn.*
365. C. teres *Menke*, *Pf.*, *Chemn.*, *Phil.*
365*a*. C. splendida *Pf.*
366. C. turris *Pf.*, *Chemn.*

Familia AURICULIDÆ.

Melampus.

367. M. coffea *Linn.* *vid.* 229.

Familia TRUNCATELLIDÆ.

Truncatella.

368. T. Caribæensis *Sowb.* *vid.* 238.

Familia CYCLOPHORIDÆ.

Cyclotus.

369. C. Dysoni *Pf.*
Cyclostoma Dysoni Pf. (olim), Chemn.
Cyclophorus Dysoni Pf. (olim), Gr. et. Pf.

Cyclophorus.

370. C. Boucardi *Sallé*, *Pf.*
371. C. Mexicanus (*Cyclostoma*) *Menke*, *Vgt.*, *Phil.*, *Sby.*, *Chemn.*
Cyclotus Mexicanus Gr. et Pf., Pf. (olim.)

Tudora.

372. T. planospira *Pf.*
Cyclostoma planospira Pf. (olim.)

Cistula.

373. C. trochlearis *Pf.*, *Gr. et Pf.*
Cyclostoma trochleare Pf. (olim), Chemn.
Cyclostoma trochlea Pf. (olim), nec Bens.

Chondropoma.

374. C. Cordovanum *Pf.*
Cyclostoma Cordovanum Pf. (olim.)
375. C. truncatum (*Cyclostoma*) *Wiegm.*, *Rossm.*
Chondropoma truncatum Pf., Gr. et Pf.

Familia HELICINIDÆ.

Helicina.

376. H. brevilabris *Pf.*
377. H. Chiapensis *Pf.*
378. H. chrysocheila *Binn.* *vid.* 242.
379. H. chrysocheila *Shuttl.*, *Pf.* (*nomen tr.*)
380. H. cinctella *Shuttl.*, *Pf.*
381. H. concentrica *Pf.*, *Gr. et Pf.*, *Chemn.*
382. H. Cordilleræ *Sallé*, *Pf.*
383. H. delicatula *Shuttl.*, *Pf.*
384. H. elata *Shuttl.*, *Pf.*
385. H. flavida *Menke*, *Sowb.*, *Chemn.*, *Pf.*, *Gr. et Pf.*
H. Ambieliana Boissy, Pot. et Mich.
H. trossula Mor.
386. H. Ghiesbreghti *Pf.*
386*a*. H. Heloisæ *Sallé*.
387. H. Lindeni *Pf.*, *Chemn.*, *Gr. et Pf.*
388. H. lirata *Pf.*, *Gr. et Pf.*, *Chemn.*
389. H. merdigera *Sallé*, *Pf.*
390. H. notata *Sallé*, *Pf.*
391. H. Oweniana *Pf.*, *Chemn.*, *Gr. et Pf.*
392. H. Sandozi *Shuttl.*, *Pf.*
393. H. sinuosa *Pf.*, *Chemn.*, *Gr. et Pf.*
394. H. tenuis *Pf.*, *Chemn.*, *Gr. et Pf.*
395. H. tropica *Pf.* *vid.* 247.
396. H. turbinata *Wiegm.*, *Pf.*, *Mke.*, *Chemn.*, *Gr. et Pf.*
H. zephyrina var. Sowb.
397. H. zephyrina *Ducl.*, *Sowb.*, *Chemn.*, *Orb.*, *Gr. et Pf.*
H. Ambeliana *Sowb.*
Oligyra zephyrina Mrs. Gray.

Schazicheila.

398. S. alata (*Helicina*) *Mke.*, *Gr. et Pf.*
Schazicheila alata Shuttl., Pf., Ad. Gen.

399. S. Nicoleti Shuttl., Pf.

400. S. pannucea *Mor.*
Helicina alata var.? Gr. et Pf.

Familia PROSERPINIDÆ.

Ceres.

401. C. eolina (*Carocolla*) *Duclos.*
Helicodonta eolina Fer.
Odontostomus eolinum Pf. (olim.)
Proserpina eolina Pf. (olim.)
Ceres eolina Pf., Gr. et Pf.

402. C. Salleana *Cum.*, *Pf.*, *Gr. et Pf.*

Descriptions of New Species of Pulmonata in the Collection of the Smithsonian Institution.

BY W. G. BINNEY.

Pedipes libata. T. imperforata, globoso-conica, solida, liris regularibus spiraliter cincta, nitens, straminea ; spira brevis, depressa, apice obtusâ ; anfr. 3, superi brevi, ultimus 5-6 longitudinis subæquans ; apertura semicircularis ; paries aperturalis callo nitente induta, et plicâ elevatâ, crassâ, uncâ et intrante armata ; labium columellare callosum, dentibus 2 approximatis, crassis, acutis, munitum ; perist. acutum, intus callo nitente in medio dentem formante munitum. Diam. maj. 2½, long. 3⅓ ; aperturæ long. 2½, mill.

Ad promont. St. Lucas pœninsulæ Californiæ collegit J. Xantus (cum *Bulimo proteo* Brod., *B. pallidiori* Sowb. et *B. excelso* Gould.)

Onchidium Carpenteri. Among the mollusca from the Straits of De Fuca, Mr. Carpenter has detected five specimens of a shelless mollusk, which evidently belong to the genus Onchidium. Being preserved in alcohol it is difficult to obtain any more satisfactory specific characters than the following: The body is oblong, with its extremities circularly rounded ; the upper surface is regularly arched ; below, quite near the edge, the border of the mantle is readily distinguished, most of the under surface is occupied by the broad, distinct, locomotive disk ; the body is uniformly smoke-colored ; in size the individuals vary considerably, the length of the largest being 5, the extreme breadth 3 millimetres.

A List of the SHELLS of the State of Wisconsin.

BY J. A. LAPHAM.

Vitrina limpida, Gould, N. W. Territory, Say.
Succinea avara, Say, Milwaukee !
obliqua, Say, do. !
ovalis, Gould, do. !
Helix albolabris, Say, do. !
alternata, Say, do. !
arborea, Say, do. !
chersina, Say, do. !
clausa, Say, do. !
concava, Say, N. W. Territory, Say.
elevata, Say, R. Kennicott.
fraterna, Say, Milwaukee !
hirsuta, Say, do. !
labyrinthica, Say, do. !
ligera, Say, N. W. Territory, Say.
lineata, Say, Milwaukee !

monodon, Rack, Milwaukee !
multilineata, Say, do. !
(perspectiva, Say, ?)
profunda, Say, Milwaukee !
striatella, Anthony, do. !
Bulimus harpa, Say, N. W. Territory, Say.
marginatus, Say, Milwaukee !
Achatina lubrica, Mül. do. !
Pupa armifera, Say, (?)
corticaria, Say, (?) Milwaukee !
Vertigo ovata, Say, (?) do. !
Carychium exiguum, Say, (?) do. !
Helicina occulta, Say, Sheboygan ! !

Amnicola limosa, Say, N. W. Territory, Say.
lustrica, Say, Milwaukee !
Melania depygis, Say, (?) do. !
elongata, Say ? (or elevata ?) Milwaukee !
occulta, Anth., Wisconsin, Anthony.
Leptoxis isogona, Say, Rock River !
Viviparus decisus, Say, Milwaukee !
subglobosus, Say, N. W. Territory, Say.
Valvata sincera, Say, Milwaukee !
tricarinata, Say, do. !
Limnæa caperata, Say, (?) do. !
catascopium, Say, N. W. Territory, Say.
columella, Say, (?) Milwaukee !
emarginata, Say, Madison, Wisconsin !
fragilis, Say, Milwaukee !
gracilis, Say, do. !
jugularis, Say, do. !
megasoma, Say, N. W. Territory, Say.
umbrosa, Say, do. do.
Physa elongata, Say, Milwaukee !
heterostropha, Say, do. !
Planorbis armigerus, Say, do. !
bicarinatus, Say, do. !
campanulatus, Say, Milwaukee.
corpulentus, Say, N. W. Territory, Say.
deflectus, Say, Milwaukee !
exacutus, Say, do. !
parvus, Say, do. !
trivolvis, Say, do. !
Ancylus diaphanus, Hald. (?) do. !
rivularis, Say, do.
Unio alatus, Say, do. !
gracilis, Bar. do. !
pressus, Lea, do. !
plicatus, Lesueur, Rock and Wisconsin Rivers !
schoolcraftensis, Lea, Fox River, Lea.
cornutus, Bar., Fox River, Barnes.
postulosus, Lea, Rock and Wisconsin Rivers !
verrucosus, Bar., Rock River !
metanevrus, Raf., Wisconsin River !
tuberculatus, Bar., do. !
elegans, Lea, do. !
donaciformis, Lea, (?)

Unio zig-zag, Lea, Wisconsin River !
trigonus, Lea, Milwaukee !
obliquus, Lam., Wisconsin River !
mytiloides, Raf., Rock River !
ventricosus, Bar., Wisconsin River, Barnes.
ellipsis, Lea, Wisconsin River !
cariosus, Say, Silver Lake !
ligamentinus, Lam., Milwaukee !
luteolus, Lam., do. !
radiatus, Lam., do. !
parvus, Bar., Fox River, Barnes.
rectus, Lam., Wisconsin and Rock Rivers !
iris, Lea, (?)
tenuissimus, Lea, Milwaukee !
phaseolus, Hild., Wisconsin River, Barnes.
gibbosus, Bar., Milwaukee !
Margaritana complanata, Lea, Milwaukee !
marginata, Lea, do. !
rugosa, Lea, do. !
calceola, Lea, do. !
Anodonta edentula, Lea, do. !
ferussaciana, Lea, do. !
imbecilis, Say, do. !
fluviatilis, Lea, (?) do. !
plana, Lea, (?) do. !

Note.—The localities observed by me are marked with an exclamation point (!) after the manner of botanists.

Contributions to American Lepidopterology.—No. 4.

BY BRACKENRIDGE CLEMENS, M. D.

Saturnia Schrank.

S. galbina.—Antennæ luteous. Body and head rather dark brown. Fore wings yellowish-brown, with a rather faint whitish, angulated band at the base. On the discal nervure is a round, black ocellus having a central subvitreous streak, containing a yellow circle, and toward the base of the wing a slender blue crescent. A whitish band crosses the middle of the nervules, with a faint wavy one between it and the hind margin. In the apical interspace is a black spot, with a crimson streak to the tip of the wing. The marginal portion of the wing is whitish, and is tinged on the terminal edge with pale yellowish brown. Hind wings similar in color and ornamentation to the fore wings, the ocelli being somewhat smaller. On the *under surface*, which is similar in hue to the upper, the faint wavy bands of the fore and hind wings are very distinct.

Texas. From the Smithsonian Institution. Capt. Pope's collection.

Pimela.

In the fore wings, the costal and subcostal nervures are placed near each other and the exterior margin. The subcostal sends a single marginal branch from near the posterior-superior angle of the disk, delivered to the margin near the tip, and just behind this angle divides into two branches; the upper one or *the apical* is simple, and the lower one is subdivided into three nervules, *the post apical* arising near the upper third and *the infra post-apical* and *subcosto-inferior* near the middle. The discal nervure arises midway between the origin of the subcosto-marginal branch and that of the apical; it is acutely angulated about the middle and sends a false nervule through the disk to the base of the wing, and above this arises the discal nervule.

The median nervure is four-branched. In place of the fold is a slender, simple nervure. The submedian sends *two branches to the inner margin*, one from the upper third and one from the lower third of the nervure. (This may be a malformation. However I can scarcely believe it is one.)

Hind wings without costal nervure. The subcostal forms an imperfect cell at its base, and near the hind end of the disk sends off an apical branch, which gives rise to an oblique but not angulated discal nervure ; from this arises a false nervule running to the base, and nearly opposite to it a discal nervule to the hind margin.

Median nervure four-branched. Submedian and internal, simple.

Body stout and very pilose, woolly. Head rather small : eyes rather large and salient. Antennæ, basal joint somewhat tufted, rather longer than the thorax, rather deeply pectinated with the branches decreasing in length to the tip, and both sets directed forward. Labial palpi extremely short, almost rudimentary. Tongue none. Abdomen equal in length to the hind wings. Tibiæ moderately ciliated exteriorly; hind tibiæ with two very short apical spurs.

This genus may, perhaps, be the same as Mr. Walker's Lagoa.

P. lanuginosa.—Female? The wings are badly worn and denuded. Antennæ pale brownish-yellow. Face dark brownish: head and body dull yellow. The anterior tibiæ and all the tarsi are dark brownish. The undenuded portion of the fore wings at the base, is woolly and pale brownish yellow.

Male ? Antennæ yellowish white. Face and the fore legs blackish-brown, the hairs white and all the tarsi blackish-brown toward the ends. Thorax white, very slightly tinted with yellowish. Abdomen rather deep, dull yellow. Wings white, slightly tinted with yellowish; fore wings woolly toward the base, with a dark brownish discoloration along the upper part of the disk and the costa adjoining it.

The female ? of this species was ticketed by the collector Bombyx lanuginosus, but I have not been able to find any description under this name, nor any that designates the insect itself.

From the Smithsonian Institution. Capt. Pope's coll. Texas.

LIMACODES Latreille.

L. laticlavia.—Body and fore wings rather dark ochreous-yellow. Fore wings with an oblique silvery band, inclined toward the base of the wing, from the costa to the middle of inner margin, and toothed toward the base on the submedian nervure or fold. A rather faint dark reddish brown line, extends from the costal origin of the silvery band to the hind margin beneath the middle. Hind wings pale ochreous-yellow. Abdomen rather reddish-ochreous.

Larva.—Outline elliptical somewhat pointed behind; body flattened, with the sides curving from a central ridge, flattened above. The ridge has a vertical elevation at its sides above the body, growing less and less before and behind, and terminates in front in a rounded margin and behind in an obtuse, short spine. The body is smooth, with no distinct spined papulæ, but the edges of the ridge and the outline of the body are thrown into folds, subcrenated. The body is thickest in the middle where it curves anteriorly and posteriorly.

The general color of the body is pale green and dotted with numerous yellow points. The central ridge is bordered in front with yellow.

The larva feeds on the underside of the leaf of maple in September, and the imago from it appears in the spring. There is doubtless a spring brood of larvæ.

Var. laticlavia? Imago, brownish-luteous, sometimes inclining to yellowish. Fore wings with an oblique silvery band from the costa to the middle of the inner margin, toothed on the submedian fold and *shaded behind with blackish-brown*, with a blackish-brown line from the costal origin of the silvery band to the hind margin beneath the middle. Hind wings *dark brown*, yellowish at the base.

Three sp. from Robert Kennicott, Illinois.

ADONETA.

The characteristics in wing structure are; that the subcostal nervure is remote from the anterior margin, and gives off two marginal branches from the disk, one near the middle and one near the end, and then subdivides beyond the disk into an apical and post apical branch. The disco-central nervule arises above the middle of the discal nervure at an angle, whence the nervure curves to the first branch of the median. In the hind wings the costal and subcostal intersect at their bases. The latter is bifid beyond the disk; the disco-central is continued to the base of the wing, attenuated within the disk, and the discal nervure is straight on the costal side of it, and very oblique on the median side; with their points of junction separated. Median three branched.

Body rather slender, not pilose. Head small; eyes quite small. Antennæ rather more than one half as long as the body. Labial palpi somewhat exceeding the front, rather slender, nearly cylindrical, squamose above and slightly hirsute beneath; third joint very small, the development being chiefly in the second joint. Tongue none. Abdomen much shorter than the hind wings. Fore legs rather slender, tibiæ moderately ciliated; middle and hind tibiæ thickly and shortly ciliated, with two rather short apical spurs. Wings very much deflexed in repose, almost enveloping the body. *Male.*—The basal half of the antennæ shortly pectinated. *Female.*—Antennæ simple.

A. voluta.—Reddish-brown, somewhat paler in the ♀ than the ♂. Fore wings with a dingy yellow streak along the base of the inner margin, extended toward the disk above the middle of the wing and on this portion are two or three blackish dots. On the hind portion of the disk is a short black streak. In the ♂ there is another short black streak along the median nervure and its last branch, with a curved row of three, black, submarginal spots. The lower streak and the spots are as distinct in the ♀ as in the ♂. In both sexes there is a subapical dingy yellow patch, lightly bordered behind with whitish. Hind margin spotted with black. Hind wing pale reddish brown.

Larva.—Body semi-cylindrical, tapering posteriorly and rounded obtusely in front. Nearly smooth, but with a subvascular row of small fleshy, minutely spined papulæ on each side of the vascular line, three of which placed anteriorly are separated and distinct, and three approximated on the last rings; the intermediate ones are minute. The outline of the body above the ventral surface, is furnished with a row of minute spined papulæ.

Bright green, with a broad dorsal yellow band containing a reddish purple one, which is constricted opposite the second and third pairs of anterior papulæ and dilated into an elliptical patch in the middle of the body. This is almost separated from a smaller elliptical patch which is constricted opposite the third pair of posterior papulæ and ends in a small round patch. The anterior and posterior papulæ are crimson and the intermediate ones green. The superventral row of spined papulæ are green.

In September, on the leaf of Apricot. Imago in March.

EMPRETIA.

In the anterior wings the subcostal nervure is moderately remote from the external margin, sends off two marginal branches from the disk, and beyond it subdivides, first near the disk, into a subcosto-inferior branch, and then into an apical and post apical branch. The discal nervure is very irregular, and sends from its costal portion a disco-central nervule, whilst the middle of the disk contains a bifid false nervule. The internal nervure is bifid at its base. In the hind wings the costal and subcostal nervures intersect at their bases. The subcostal is bifid near the disk. The costal portion of the discal nervure is angulated, and forms likewise an acute angle in the middle of the disk, whence a false nervule proceeds to the base of the wing, and obliquely joins the median system, giving rise on the median side to a disco-central nervule.

Body stout or very stout, thorax covered thickly with flat hairs. Head quite small; eyes small and oval. Labial palpi somewhat exceeding the head, slightly curved, more robust in the ♂ than in the ♀; third joint small and conical, about four times less long than the second and slightly hirsute beneath. Tongue none. Antennæ rather more than one half the length of the body. Abdomen shorter than the hind wings. Fore legs long and rather slender; fore tibiæ and tarsi moderately ciliated; middle and hind tibiæ thickly ciliated, with two moderate apical spurs on hind tibiæ. *Male.*—Antennæ, basal half pectinated. *Female.*—Simple.

E. stimulea.—Body and fore wings uniform dark ferruginous, with two small subapical white spots, and in the ♂ two more near the base of the wing beneath the median nervure. Hind wings pale reddish-brown.

Larva.—Body semicylindrical, truncated obliquely before and behind, with a pair of anterior, long, fleshy, subvascular slenderly spined horns and a pair smaller beneath them, above the head; a posterior similar pair and a smaller anal pair beneath them. The superventral of papulæ are rather large and densely spined. After the last moulting the longer horns become moderate in length.

The portion of the body between the anterior and posterior horns is a fine, bright green color, bordered anteriorly and superventrally by white, with a central, dorsal, oval reddish brown patch bordered with white, which color is again edged by a black line. The horns, papulæ and anterior portion of the body are reddish brown, with a small yellow spot between the anterior horns, while the posterior pair are placed in a yellow patch.

The spines with which the horns are supplied, produce an exceeding painful sensation when they come in contact with the back of the hand, or any portion of the body on which the skin is thin.

On a great variety of plants; fruit trees, the rose, Indian corn, (Zea mays) and a number of other plants.

E. paenulata.—Body dark reddish brown. Fore wings dark reddish-brown along all the borders, with a large, central pea-green patch, extending from the base of the wing to the subterminal portion, bordered narrowly on the inner side and behind with white, and deeply indented opposite the middle of the inner margin, where there is a bright brown patch in the reddish brown border. Hind wings yellowish brown.

I do not know the larval state of this species, and have only two specimens, both apparently females. I can perceive no differences in the structural characters of the imago of this and the previous species, and am quite sure that they belong to the same generic group. The discovery of the larval form will, however, determine the question.

From Mr. Robert Kennicott, Illinois.

NOCHELIA.

In the anterior wings, the subcostal nervure is remote from the external margin, and the costal arises from its base; it gives off a marginal branch near the posterior end of the disk, and *another exterior to the disk.* The subcosto inferior branch arises nearly midway between this latter and the post-apical, which is given off near the tip of the wing. The discal nervure is doubly angulated, and gives rise to the disco-central nervule at the angle on the costal side ; and from the central, a false nervule to the base of the wing. Median four-branched. Internal bifid at the base.

In the hind wings, the costal and subcostal have a common trunk. The subcostal bifid beyond the disk. The subcostal and median portions of the discal nervure are much separated at their points of junction with the disco-central, which is continued as a false nervule to the base of the wing.

Male.—Body stout and very short ; thorax covered with flat hairs. Head and eyes moderate, the latter oval. Labial palpi slightly exceeding the front, rather stout, porrect, third joint very minute. No tongue. Antennæ much more than one half as long as the body, with the basal third pectinated. Abdomen shorter than the hind wings. The middle and hind tibiæ rather thickly ciliated ; apical spurs of hind tibiæ, if present, inconspicuous.

N. tardigrada.—*Male.*—Body and fore wings rather dark reddish brown, with a small, nearly triangular pea-green patch narrowly bordered with dark brown at the base of the wing beneath the median nervure, slightly excavated behind where it adjoins a bright brown patch. Towards the hind end of the disk, in its middle, is a minute, oval dark brown streak ; two small pea-green subapical spots, the one nearest the costa minute.

Larva.—The body is elliptical, much flattened above. There is on each side a row of subvascular, minutely spined papulæ, of which the three anterior and two posterior are more conspicuous than the rest. The superventral row of papulæ are moderate, equal, and form the outline of the body.

General color very pale green, with dorsal patches of the general hue beautifully margined by crimson lines, and crimson, vascular patches, of which those between the *fourth* and *fifth*, *seventh* and *eighth* pairs of subvascular papulæ are most conspicuous, although small. All the papulæ pale green.

On the apricot in September. Imago in April.

I have descriptions of other larvæ similar in physical characteristics to the above, but have not succeeded in carrying them through their transformations.

The genera Pimela, Limacodes, Adoneta, Empretia and Nochelia belong to that most anomalous family Limacodidæ. Perhaps some of the groups described as new have been heretofore established, but I found the effort to identify them from meagre and unsatisfactory diagnoses of the imago an almost futile task.

ATTACUS Hübner.

The following species have never been described I believe, except by De Beauvois, and as his work is now rather rare and an expensive one, and not accessible to the great body of American entomologists, I insert here descriptions of the following insects :

A. splendida, Bombix splendida, *De Beauvois, Ins. en Afrique et en Amer.* p. 133, pl. 22, f. 1, 2.

Dull reddish-brown. Thorax banded with white before and behind. Abdomen with a white stigmatal band edged above and beneath with black and containing reddish brown spots. Fore wings with a basal white streak extending from the costa to the base of medio-posterior nervule and thence to the inner margin at the base of the wing, bordered toward the base with orange-yellowish and externally by black. The breadth of the disk is occupied by a large trigonate vitreous patch, extended behind so as to interrupt a white wavy, narrow band crossing the middle of the nervules and which is bordered internally with black and externally with orange-yellowish. The trigonate patch is edged within by white and externally by black behind and before. Beyond the transnervular band, the wing is brown dusted with blackish and powdered with whitish roseate in the medio-posterior and submedian interspaces behind the band. At the tip is a large whitish roseate patch, three contiguous black spots at the end of post apical interspace, with a wavy black, submarginal line. Hind margin luteo-testaceous. Hind wings, trigonate vitreous patch somewhat larger than in fore wings, with a transnervular band similar to fore wings, continued around the costa to the base of the wing and the medio-posterior interspace and those adjoining it, powdered with whitish roseate behind the band. Hind margin luteo-testaceous with a row of black spots and a dark brown line.

From Smithsonian Institution. Capt. Pope's coll. Texas.

Hypercompa Stephens.

H. interrupto-marginata. — Bombix interrupto-marginata, *De Beauvois Ins. Afriq. et Amer.* p. 265, pl. 24, f. 5, 6. Head and labial palpi pale orange yellow, the latter with black tips. Thorax pale yellow, with a broad black stripe on the disk. Abdomen orange yellow, with a dorsal black stripe. Fore wings pale yellow, with a black streak along the costa not reaching the tip of the wing, a broad streak of the same hue along the inner margin, sending from the inner angle toward the hind end of the disk, a hooked demi-band; hind margin black in the middle. Hind wings pale orange-yellow, with a black spot near the inner angle and a larger one in the middle of the medio-posterior interspace and nervule. Legs pale orange-yellow.

Virginia and Wisconsin.

TINEINA.

Anorthosia.

Anterior wings rather narrow, and somewhat lanceolate. The subcostal nervure is nearly straight and gives off from the disk, which is unclosed, three marginal nervules and becomes bifid before the tip. The discal nervule is independent. The median is four-branched, its last nervule is bifid, and arises opposite the middle of the origins of the 2d and 3d subcosto marginals. The submedian is bifid at its base.

Hind wings somewhat emarginate behind the tip on the external margin, and rather deeply emarginate beneath the tip. Disk unclosed. Subcostal nervure bifid from the end of the disk. This discal nervule is transferred to the median side, and the median nervure is three-branched.

Head and face smooth; vertex elongated, with long loose scales overlapping in the middle. Forehead rounded. Ocelli very small. Eyes small, round and salient. Antennæ about one third less long than the anterior wings, basal joint long and slender, the stalk slightly denticulated beneath. Maxillary palpi extremely small. Labial palpi, smooth, long and porrected, their development being almost entirely in the second joint, *which is supplied above with long hairs capable of being erected*, although usually decumbent, and with the *third joint* short, very slender, smooth and pointed, *arising nearly erectly at the apical third of the second*, and is likewise capable of being erected or depressed. Tongue scaled at the base and about as long as the labial palpi.

A. punctipennella.—Labial palpi and head rather dark ochreous, the former dark brownish externally. Antennæ ochreous, annulated with dark brown. Fore wings rather dark ochreous, sometimes dusted with dark brownish, with three pairs of blackish brown dots along the fold,.the first near the base of the wing, the second rather above the middle and the third near its end. One dot of each of the latter pairs, is in the fold, the other above it obliquely. The costa at the base, and beyond the middle is touched with blackish, with the hinder portion of the wing dotted and dusted with dark brown, especially along the hinder margin. Cilia ochreous. Hind wings shining, blackish gray, cilia the same. Abdomen blackish.

GELECHIA Zeller.

G. cerealella.—*Anacampsis (Butalis) cerealella* Harris, Treat. on Ins. 2d ed. p. 392—Head and face dull ochreous. Labial palpi pale ochreous, with fuscous ring at the tip and a slight fuscous spot on the middle of the second joint. Fore wings pale, shining ochreous, with a fuscous streak in the fold toward the base and a few fuscous scales toward the tip of the wing on the margin ; cilia grayish ochreous. Hind wings grayish ochreous, cilia the same.

This insect has doubtless been introduced into this country from Europe. My own specimens were obtained from the W. D. Porter wheat, distributed by the Patent Office at Washington City. The seed of this wheat was originally procured from Mount Olympus in Asia, and from two heads of this as a beginning was grown in the District of Columbia the grain distributed in the years 1854 and 1855. The insect is probably common in the District.

G. agrimoniella.—Labial palpi yellowish. Eyes crimson. Antennæ yellowish annulated, with black. Head, thorax and fore wings blackish somewhat suffused with a greenish hue, the latter black beyond the middle, with a pale yellow band, somewhat hooked on the costa, at the apical third of the wing. Hind wings blackish-brown, cilia the same.

The larva may be found about the middle of June, nearly full fed, in the leaves of Agrimony, (Agrimonia Eupatoria) which it rolls and binds together with silken threads. The body of the full grown larva is colored obscure green, dotted with black dots. Head and shield pale brown. The young larva is flesh-colored and dotted with dark colored dots. The pupa is contained in a slight cocoon, sometimes woven between the leaves of its food plant, but usually it is abandoned to construct it. The pupa-case is not thrust from the cocoon at the maturity of the insect.

The June brood of larva become imagos during the latter part of June or the beginning of July.

Fore wings scarcely pointed. Secondary cell faintly indicated. Subcosto-apical vein forked. The last branch of median bifid. Hind wings emarginate before the tip and slightly beneath it; with an intercostal cell at the base.

G.? flavocostella.—Labial palpi wanting. Head dull reddish yellow. Antennæ blackish-brown, yellowish toward the base. Thorax, disk black, front and sides dull yellow. Fore wings black, with a broad, pale yellow costal streak, extending from the base nearly to the tip of the wing, undulating from the base to the middle of the wing and dilated into an angle at the apical third, with a faint, yellowish streak produced from the apex of the angle toward the inner angle of the wing. Hind wings dark brown, cilia the same.

This insect does not, probably, belong to the genus under which it is placed. As the labial palpi are wanting, I include it here from its general structure and appearance, not knowing otherwise where to place it.

One specimen from A. I. Packard Jr., of Brunswick, Maine.

The second joint of labial palpi moderately thickened. Hind wings deeply emarginate beneath the tip, which is produced.

G.? roseosuffusella.—Labial palpi, second joint whitish spotted with dark fuscous ; the third dark fuscous annulated with two white rings. Head and thorax ochreous, tegulæ with a dark-brown spot in front. Antennæ dark fuscous, annulated with whitish. Fore wings dark brown, ochreous along the inner margin, where it is suffused with roseate. At the base of the wing is a white spot containing a dark brown dot, and near the base an oblique white band. About the middle of the wing is a large white spot or indistinct broad band, irrorated with dark brownish and tinted with roseate on the inner margin. Near the tip is a costal white spot and a roseate spot opposite on the inner margin, and a whitish spot at the tip. Cilia brownish gray. Hind wings dark fuscous-gray, cilia fuscous. Feet annulated with white.

Fore wings scarcely pointed. Hind wings slightly emarginate beneath the tip, with an intercostal cell at the base.

G. Rhoifructella.—Head, face and thorax grayish-fuscous. Labial palpi rather dark ochreous. Antennæ ochreous, annulated with black. Fore wings grayish-fuscous dusted with dark brown, and with four dark fuscous dots, one near the base of the fold, two near the middle of the wing, (one on the fold and one above it,) and one on the end of the disk. Near the end of the wing is an indistinct grayish band. Hind wings fuscous, cilia the same.

The larvæ may be found in April or early in May, in the fruit spikes of sumach (Rhus Typhina), where they feed on the crimson hairs and exterior envelope of the drupes, without however eating the drupes themselves. The larvæ are concealed in galleries formed in the fruit spikes, and their presence is indicated by strings of "frass" clinging to the exterior. The cocoon is a slight silken web woven amongst the "frass" near the surface. The larva is immaculate, and varies in color, from dark reddish-brown to a pale brown, dotted with rows of darker colored dots, each giving rise to a hair; the head is brown and the shield blackish. The imago appears about the middle of June.

Size small. Fore wings rather lanceolate and pointed. Hind wings deeply emarginate beneath the tip, which is produced. The second joint of labial palpi somewhat thickened.

G.? rubidella.—Head and face ochreous. Labial palpi yellowish white, with two deep fuscous spots on the middle joint, and two blackish brown rings on the terminal one, a narrow one near its base and a broad one near the tip, while the tip is blackish. Antennæ deep fuscous annulated with white. Thorax fuscous, deep fuscous in front. Fore wings roseate, dusted with deep fuscous, with a brownish ochreous streak along the inner margin from the base to nearly the middle of the wing, and interrupted about its middle by a roseate hue. At the basal third of the wing is an oblique deep fuscous band, extending from the costa to the fold, and beyond the middle of the costa is a spot of the same hue, joined toward the inner margin by a brownish-ochreous spot. The apical portion of the wing much dusted with deep fuscous; cilia ochreous, with a fuscous hinder marginal line. Hind wings blackish gray; cilia somewhat paler. Feet rather pale ochreous, spotted with deep fuscous.

G. flexurella.—Head and face grayish fuscous. Labial palpi, second joint dark fuscous, terminal joint white with a blackish ring at the base and one near the tip. Antennæ whitish annulated with dark fuscous. Fore wings grayish fuscous, with a pale grayish band near the apex margined internally on the costa by a blackish brown spot, with another of the same hue about the middle of costa and another on the costa near the base. Near the base of the fold is a rather faint dark brownish spot, and the wing is sprinkled with dark brown atoms. Hind wings dark fuscous, cilia ochreous gray.

Variety? Fore wings smoky fuscous, with a pale grayish band near the tip, broadest and most distinct on the costa, margined broadly internally across the wing, with dark brown, with a pale grayish spot between it and a dark brown spot on the middle of costa. In the middle of the wing are two dark brown spots, one on the basal part of the fold and a small one on the costa above it of the same hue. Hind wings dark fuscous.

G. mimella.—Head and face tawny brown. Labial palpi, second joint dark fuscous, with a whitish ring at its end; third joint gray with a ring in its middle. Antennæ pale fuscous annulated with white. Fore wings tawny brown, with an ochreous band near the tip, margined internally slightly with dark brown. Along the costa are a few dark brown spots and a few in the apical portion behind the ochreous band. Hind wings dark brown.

Size small. Fore wings acutely pointed or lanceolate. Hind wings deeply emarginate beneath the tip, which is produced. Labial palpi rather short; middle joint somewhat thickened with scales, terminal rather short.

G.? detersella.—Head and face grayish fuscous. Labial palpi pale yellowish-white, with two fuscous patches on the middle joint, a very narrow fuscous ring at the base of terminal joint, a broad one near the tip, with the extreme apex whitish. Antennæ grayish fuscous, annulated with dark fuscous. Fore wings grayish, very profusely dusted with dark fuscous, with a dark fuscous spot on the disk; cilia ochreous gray. Hind wings pale ochreous-gray; cilia pale ochreous. Feet annulated with whitish.

I have found this genus a very difficult one. It is of great extent and includes individuals of a variety of aspects and more or less marked modifications in the labial palpi. The oral parts in the doubtful species correspond so nearly to those of the genus, that I have concluded after much hesitation not to place them in separate groups, notwithstanding the produced apex of the hind wings in some of them.

STROBISIA.

Fore wings obtuse and rounded behind. The subcostal divides into four branches, with the apical branch simple or forked. The discoidal nervure gives origin to a disco-central branch. The median is four-branched; submedian forked at the base. Hind wings trapezoidal, not broader than fore wings, with the hinder margin slightly emarginate beneath the tip. Subcostal bifid from the discoidal, which gives rise to a disco-central vein. Median three-branched, the two upper branches arising at a common base.

Head smooth with appressed scales. Forehead and face rounded. Ocelli large. Eyes oval and obliquely placed. Labial palpi recurved, moderately long; second joint flattened, smooth with appressed scales; third slender, smooth and pointed. Maxillary palpi short and distinct. Antennæ slender, simple; basal joint subclavate. Tongue scaled, nearly or quite as long as the thorax beneath.

The structure of the insects here included, closely approach that of the genus Gelechia, in which I placed them in the first arrangement. I cannot believe, however, that they are members of this group, and have hence removed them. The perfect insects are most commonly found in shaded places, on the surface of leaves. They are active and restless in their motions, and *turn in circles* on their resting places, especially after short flights; withal they are disposed to be quarrelsome and drive away from the leaves on which they may happen to be enjoying themselves, other "little people" of the shaded wood.

Fore wings obtusely rounded behind. Subcosto apical branch simple. Medio posterior vein bifid.

S. iridipennella.—Head and thorax brown, with a greenish hue; face whitish beneath. Labial palpi dull silvery. Antennæ dark brown. Fore wings dark brown, with a greenish-golden hue. Along the costa are three metallic blue or violet-blue oblique streaks scarcely reaching the middle of the wing, the first is longest and is placed about the middle of the costa, the third near the tip, and with three spots of the same hue beneath the second streak, one in the fold and two in the middle of the wing. In the apical portion near the hind margin are three or four parallel similarly hued streaks and at the base of the fold is a violet-blue spot. Hind wings brown, along the base of costa pale yellow.

Fore wings obtuse, hind margin slightly oblique. Apical branch bifid.

S. emblemella.—Head and thorax dark brownish, with a golden hue; face whitish beneath. Labial palpi silvery gray; third joint fuscous in front. Antennæ dark fuscous. Fore wings dark brown, somewhat golden. The costa at the base and a basal band are dull silvery and rather behind the middle of costa is an oblique silvery costal streak and about the middle is a curved costal streak of the same hue. This unites with an oblique silvery streak, from the middle of inner margin, and which becomes diffuse in the middle of the wing. Near the tip at the beginning of the costal cilia, is a small costal silvery spot and a row of spots or short parallel bluish silvery streaks along the hinder margin. Cilia at the tip ochreous, containing a dark fuscous line; on inner margin dark fuscous. Hind wings dark brown, yellowish along the costa; cilia dark brown.

ENDROSIS? Hübner.

Hind wings with a medio-discal branch, in addition to the discocentral; terminal branch of median bifid. Transparent patch at base, quite distinct.

E.? Kennicottella.—Head and thorax white, with a small dark fuscous patch on the front of tegulæ. Labial palpi white, terminal joint with a dark fuscous ring at the base and one near the tip, with the extreme apex white. Antennæ dark fuscous. Fore wings whitish, much dusted with dark fuscous. At the base is a white spot and the adjoining portion of the costa dark fuscous; behind the middle and near the tip is a whitish spot and opposite the latter on the inner margin is a whitish spot nearly joining it, both dusted with fuscous. Apical portion, dark fuscous, with a few whitish spots on the margins; cilia ochreous. Hind wings gray; cilia pale ochreous. Feet with tarsi annulated.

From Mr. Robert Kennicott of North Westfield, Ill. Two specimens.

EVAGORA.

Fore wings rather narrow and obliquely pointed at the tip; inner margin slightly retuse beyond the middle. Discoidal cell closed by a faint, simple, oblique nervure, given off from the subcostal near the third marginal branch; without disco-central nervule. The subcostal runs almost straight from the base to the tip of the wing, giving off from the cell *three* marginal branches, one near the middle of the wing and two near the end of the disk; beyond the disk it sends another branch to the costa, and before the tip becomes bifid sending one branch above and another below the tip. The median subdivides into four branches, which are aggregated at their origins, and, except the medio-posterior, are long. The submedian is furcate at its base. Hind wings deeply emarginate beneath the tip, which is abruptly produced, although short. The discoidal cell is closed by a slight curved nervure, and is without a disco-central nervule. The subcostal is bifid from the discal nervure, and the median gives rise to a medio-discal nervule which curves much upward; the last branch of the median much removed from the two terminal branches which are approximated.

Size small, forehead rounded; face rather narrow. Ocelli none. Eyes round, moderately prominent. Antennæ rather thick, simple, and about one half as long as the fore wings; basal joint rather slender but short. Labial palpi cylindrical, rather short, middle joint slightly thickened toward its extremity, at least *one half* longer than the terminal joint, which is somewhat roughened but slender and pointed. Maxillary palpi not perceptible. Tongue scaled at the base, short, not as long as the labial palpi.

This genus shows some resemblance in structure to Parasia, but I think it is very distinct.

E. apicitripunctella.—Head, face and thorax ochreous. Labial palpi ochreous internally, externally dark fuscous; terminal joint with a fuscous ring at the base and tip, extreme tip ochreous. Antennæ dark fuscous, indistinctly annulated with ochreous. Fore wings brownish ochreous, with three oblique dark streaks from the costa to the middle of the wing, bordered behind with *very pale ochreous*, the first near the base, the second about the middle of costa, the third near the tip with its pale ochreous margin extended across the wing. Beneath the *third streak* are two dark fuscous spots, sometimes margined with pale ochreous. At the tip are three dark fuscous dots, one nearly on the extreme apex and two others behind it. Cilia of the tip somewhat dusted with fuscous, the inner margin ochreous. Hind wings rather dark ochreous, cilia the same.

TRICHOTAPHE.

Fore wings scarcely pointed, hind margin oblique, costa behind the tip deflexed. The discoidal cell is closed and rounded behind. The subcostal nervure sends four veins to the costa behind the tip, the last of which is furcate, and one to hind margin beneath the tip from the cell. The median sends four branches to the hind margin, the last of which is furcate. Hind wings emarginate in the middle of costa, and somewhat emarginate beneath the tip, with an intercostal cell at the base; subcostal bifid from the discal nervure which sends a central branch to the hind margin. The median is three-branched.

Head smooth, with appressed scales. Without ocelli. Eyes round and moderately prominent. Labial palpi recurved; middle joint slightly curved, rather broad, compressed laterally, squamose on the sides and hairy toward the end; terminal joint slender, smooth, pointed and not so long as the middle joint. Maxillary palpi short and distinct. Antennæ rather more than one half as long as the fore wings, somewhat denticulated and microscopically pubescent beneath in the male? Tongue scaled at the base, nearly as long as the thorax beneath.

Middle joint of labial palpi much flattened; hairy above and below, with diverging hairs.

T. setosella.—Head, face and thorax rather dark ochreous. Labial palpi, middle joint blackish-brown externally, with the spreading hairs above and beneath at the end, ochreous; terminal joint ochreous tipped with fuscus, antennæ fuscous, ochreous toward the base. Fore wings dark brewn, slightly dusted with pale ochreous. At the base of the costa is a pale ochreous irregularly triangular patch, slightly dusted with fuscous, angulated on the upper portion of the fold; the angle is margined beneath with blackish brown, with a small patch of the same hue between the angle and base of the wing, and a large one behind it extending from the subcostal nervure to the fold. Across the base of the nervules runs a pale ochreous line, on each side of which the wing is nearly uniform dark brown. Hind wings yellowish brown.

Middle joint of labial palpi without spreading hairs.

T. juncidella.—Head, face and thorax dark brown. Labial palpi ochreous orange. Antennæ dark brown. Fore wings dark brown almost blackish brown, with an ochreous orange spot on the disk, one on the subcostal nervure nearer the base, one beneath it in the fold, and one on the end of the disk, all of the same hue. On the costa near the tip is a small ochreous orange spot, and the cilia which are somewhat paler than the general hue are varied with shining ochreous. Hind wings dull yellowish brown.

CALLIMA.

Fore wings rather ovate, obtusely pointed. The subcostal nervure sends four nervules to the costa, the last one furcate behind the tip, with both branches above it. From the discal proceeds a disco-central nervule, and the median subdivides into four branches. Submedian furcate at the base.

The hind wings are much narrower and shorter than the fore wings, emarginate in the middle of the costa, hind margin obtusely pointed and very oblique. The costal ends in the middle of the wing. The subcostal is attenuated towards the base, the discal gives rise to two nervules and the median is three-branched, the superior and central nervules arising in a short common stalk.

Head smooth, with hair-like scales. Face quite narrow. Ocelli none. Eyes round and quite prominent. Labial palpi long and recurved; the middle joint rather slender, smooth with appressed scales, slightly flattened, longer than the third joint, which is slender, smooth and pointed. Maxillary palpi none. Antennæ inserted on the front, basal joint smooth and subclavate, slightly denticulated beneath and microscopically pubescent (in the ♂ alone?). Tongue scaled at the base and somewhat longer than the anterior coxæ.

This insect, I think, must approach very nearly Œcophora of Zeller if it is not, indeed, a member of that genus.

C. argenticinctella.—Head, face and thorax deep reddish orange. Labial palpi, middle joint dark brown, terminal white with a broad dark brown ring on its middle. Antennæ silvery white annulated with blackish. Fore wings yellowish orange. Along the *basal margin* of the wing from the fold to the basal angle, is a silvery line black margined on both sides, and one from the basal third of the inner margin, somewhat curved and not extended to the costa, likewise silvery and black margined on both sides; the basal portion of the wing included between these lines is deep reddish orange. Near the apical third of the wing is a silvery costal streak, curved and tapering outwardly, slightly dark margined on the costa behind. Opposite this on the inner margin, is a semicircular silvery line, black margined on both sides at its beginning, which terminates in a dark brown spot, white margined exteriorly, at the commencement of the cilia, before which the line becomes grayish silvery. The portion of the wing included within this line, is deep reddish orange, as well as the apical portion, in which along the hind margin is a row of silvery spots each slightly dark margined. Hind wings fuscous. Feet annulated with white.

NOMIA.

Fore wings rather narrowly ovate-lanceolate, discoidal cell very narrow, long and unclosed, with two independent discal nervules to the hinder margin beneath the tip. The costal nervure is short. The subcostal nearly straight, sending three nervules to the costa from the cell, the first from the middle of the wing, and its last branch bifid, with both branches above the apex. The median is two-branched, the one nearest the base bifid near its end. The submedian is furcate at its base.

Hind wings narrower than the fore wings, costa nearly straight, but slightly curved; apex decidedly produced, with the hind margin deeply and circularly excavated beneath it and the anal angle rounded. The discoidal cell is broad and unclosed, with a short independent discal nervule beneath the middle of the wing. Subcostal nervure simple. Median three-branched, the first delivered to the inner margin rather behind the middle, the last to the rounded anal angle.

Head smooth, with appressed scales. Forehead and face broad and rounded. Ocelli none. Eyes oval, not prominent, flattened. Labial palpi short, somewhat reflexed, smooth, rather slender and pointed; terminal joint extremely short, much slenderer than the middle. Maxillary palpi not perceptible. Antennæ about one half as long as the fore wings, rather thick, but tapering, roughened; basal joint rather slender and short. Tongue slender, scaled at the base, longer than the anterior coxæ.

N. lingulacella.—Head, face, and thorax, dark fuscous. Tegulæ golden. Labial palpi pale yellowish, terminal joint fuscous. Antennæ dark fuscous. Fore wings golden yellow. At the base of the costa is a dark golden brown patch, not extended beyond the fold, and margined behind and beneath with iridescent silvery. On the inner margin near the base and extended to the middle of the margin is a rather long patch of the same hue, with an iridescent silvery internal patch and touched exteriorly with the same hue. A large trapezoidal golden brown patch on the middle of the costa is margined internally by a rather broad iridescent silvery streak, which is slightly dark margined internally, having also an external silvery streak produced in the middle of the wing toward the apex and beneath it, at its anterior angle, a brownish silvery blotch, pointing to the inner margin at the beginning of the cilia. In the apical portion of the wing is a silvery streak, dark margined on both sides behind, pointing into the costal cilia above the apex. The costa from the trapezoidal patch to the tip, is touched with dark brown; cilia dark brown; beneath the apex varied with silvery on the base of the cilia. Hind wings dark brownish.

TRYPANISMA.

Fore wings ovate-lanecolate. The discoidal cell is rather narrow and elongately oval. The subcostal nervure sends three nervules to the costa, the last from the end of the cell, together with the apical branch which curves at its origin to send off a very short and faint discal nervure, and at its middle gives rise to a costal branch, becomes furcate behind the tip and delivers a branch above and one below the tip. The median is three-branched, the middle branch being bifid. Submedian furcate at the base. Hind wings narrower than the fore wings, with an intercostal cell at the base; apex produced, deeply emarginate on hind margin and anal angle rounded. The costa is slightly emarginate in the middle. The discoidal cell broad, and closed by a very faint nervure from the middle of the subcostal, which is furcate near the tip. The discal nervule arises near the median, which is three-branched, with branches rather approximated.

Size small. Head smooth, with appressed scales. Forehead and face rounded and rather broad. Ocelli none. Eyes oval, moderately prominent. Labial palpi moderate, arched; middle joint slightly thickened with scales beneath, terminal as long as the second, smooth, pointed and tapering from the middle. Maxillary palpi not perceptible. Antennæ slender and simple; about one half as long as the fore wings; basal joint subclavate. Tongue scarcely so long as the labial palpi.

T. prudens.—Head pale yellowish white dusted with fuscous. Face yellowish white. Labial palpi pale yellowish white, with two dark brown spots on the second joint and two rings on the terminal of the same hue, one at the base and one near the apex. Thorax yellowish, dusted with fuscous. Antennæ fuscous slightly annulated with yellowish. Fore wings fuscous, tinted with yellowish, with a small ochreous yellow patch on base of costa, one of the same hue on the middle of inner margin, extended to the middle of the wing and a band of the same hue near the tip, much angulated or nearly interrupted in the middle of the wing Hind wings fuscous.

The generic characters of this insect approach those of Evagora. The larva lives within a silken web woven on the under surface of the leaves of chestnut oak. It feeds on the cuticles and parenchyma of both sides of the leaf, gaining the upper side by round holes eaten through its substance, and just large enough to admit the body; of these there were three at various points of the eaten surface. If alarmed the larva immediately retreats through the opening last made to the web on the under surface. The pupa is robust, almost ovoid and is contained in a slight cocoon woven on the leaf on which the larvæ feed. I have no description of the larva. It was taken July 22d, became a pupa on the 27th, and an imago on August 8th.

BUTALIS Treitschke.

B. fuscicomella.—Head, face, labial palpi and thorax, yellowish fuscous, antennæ purplish fuscous. Fore wings purplish fuscous, tinted somewhat with yellowish; cilia purplish fuscous. Hind wings dark fuscous.

Taken on wing in June. The egg is ellipsoidal; dirty white; investing membrane thin and covered with punctures, variolate.

Fore wings with three subcosto marginal-branches, the apical simple; apex pointed.

B. flavifrontella.—Head and face pale brownish ochreous. Labial palpi dark fuscous. Thorax and antennæ purplish fuscous. Fore wings purplish fuscous, with a yellow basal streak from the base to the middle of the wing, sometimes almost wanting, and the tip of the wing of the same hue. Hind wings dark fuscous.

Fore wings with three nervules beneath the apical.

B. matutella.—Head, face, thorax, and antennæ dark brownish with a purple hue. Fore wings reddish fuscous, with a brassy lustre; a pale greenish white spot rather obliquely placed near the middle of the wing and one of the same hue on the inner margin, near the apex. Hind wings dark fuscous, cilia the same.

ANARSIA ? Zeller.

Fore wings ovate-lanceolate; with an *opaque space* on the costa, towards the end of the costal nervure and the first subcosto-marginal branch. Discoidal cell rather narrow, closed by a short nervure. The subcostal sends four branches to the costa, the first from a point rather behind the middle of the wing, much separated from the second, and the last *furcate* on the costa before the tip, and a simple branch beneath the latter to inner margin just beneath the tip of the wing. The median subdivides into four branches, rather approximated at their origins, the medio-posterior branch being nearly opposite to the second marginal. Subcostal furcate at the base. Hind wings trapezoidal, costa retuse, slightly emarginate beneath the tip, hind margin obliquely rounded; broader than the fore wings. Subcostal nervure rather attenuated toward the base, with a faintly formed intercostal cell, furcate. Discoidal cell broad, closed, with a nervule given off to the hind margin. Median three-branched, medio-posterior branch distant from the others.

Head smooth, covered thickly with decumbent scales. Forehead broad, almost spherical; face rather narrow beneath. Ocelli none. Eyes rounded, moderately prominent. Labial palpi, *second joint thick, with a very abundant tuft of hairs beneath prolonged in front*; third joint *smooth, slender and pointed*, as long as the second. Maxillary palpi, *short and distinct*. Antennæ simple, scarcely more than one-half so long as the fore wings, slightly denticulated, basal joint smooth. Tongue scaled at the base, about as long as the labial palpi.

I have three specimens of the insect belonging to this genus, but none of them show the peculiar structure of the palpi of the European male. Whether mine are all females or whether the individuals are generically distinct from the European, as the details of some parts of their structure seems to indicate, must be left for future determination.

A. ? pruniella.—Head and face pale gray; thorax dark gray. Labial palpi dark fuscous externally and pale gray at the end; terminal joint gray, dusted with dark fuscous. Antennæ grayish, annulated with dark brown. Fore wings gray, dusted with blackish brown, with a few blackish brown spots along the costa, the largest in the middle, and short blackish-brown streaks on the median nervure, subcostal, in the fold and one or two at the tip of the wing; cilia fuscous gray. Hind wings fuscous gray; cilia gray, tinted with yellowish.

The larva was taken June 16th, full grown and about to transform on the limbs of the plum. Its head is black, body uniform reddish-brown with indistinct papulæ, each giving rise to a hair, and with pale brown patches on the sides of the 3d and 4th segments; shield and terminal prolegs, black. One specimen had secreted itself under a turned up portion of the old bark of the trunk. The cocoon is exceedingly slight, and the tail of the pupa is attached to a little button of silk. The pupa is ovate, abdomen short and conical, smooth; color, dark reddish-brown. I do not know on what part of the tree the larva feeds.

STILBOSIS.

Fore wings narrow and pointed. Discoidal cell open, elongated and very narrow. Subcostal nervure, with three nervules to the costa from the cell, and an apical branch which sends *a nervule to the costa from its middle, and is bifid at the tip of the wing;* the apical branch is nearly absolete from the third to the fourth marginal branch. Beneath the apical is a discal nervule, which is obsolete posteriorly from its middle. The median is three-branched; the submedian, simple. Hind wings setaceous; the discoidal cell is open and moderately broad toward the base of the wing. The subcostal is obsolete toward the base and bifid at the tip of the wing; *a discal nervule beneath it is obsolete posteriorly from its middle.* The median subdivides into three separate branches.

Head and face perfectly smooth. Ocelli none. Eyes small, oval and visible in front. Labial palpi moderate, somewhat curved, slender, smooth and pointed; terminal joint as long and as thick as the middle, and very acute at its apex. Antennæ rather thick, simple, somewhat roughened, rather short; basal joint smooth and subclavate. Tongue short.

This genus is nearly related to Cosmopteryx of Hübner, but the labial palpi are much less developed, and the tongue much shorter.

S. tesquella.—Head and face grayish-silvery, having a greenish splendent lustre. Labial palpi ochreous. Antennæ dark fuscous. Fore wings fuscous-golden, tinted along the base of costa with reddish-violet; with *three patches of raised scales*, one in the fold near the base, one behind the middle of the wing, and one near the tip on the inner margin, the latter two are large and extended nearly to the costa. In certain lights these raised patches are golden *internally*, while the spaces of the wing between them become dark fuscous and with the light striking the wing from the tip the patches are dark ochreous and the last is extended obliquely into the costa as a streak of the same hue. The tip of the wing is reddish-violet, in certain lights dark fuscous. The cilia are very long and are extended along the hind margin beyond the middle of the wing; fuscous tinged with reddish. Hind wings dark fuscous, cilia the same.

LAVERNA Curtis.

Fore wings pointed, oblique along the hinder margin, with five veins beneath the furcate apical vein. Discoidal cell narrow. Submedian *furcate at each end;* basal fork long, the apical fork shorter. Hind wings rather retuse on the costa before the tip; hind margin rounded or cimetar-shaped from base to apex. The subcostal is obsolete toward the base, simple, and runs into the costa before the tip. Discoidal cell closed, with a discal vein furcate at the tip. Median three-branched, the last two arising on a common base.

Head smooth; backhead or vertex elongated. Forehead obtuse, advanced; face retreating. Eyes oval, visible in front. Labial palpi moderately long, curved, smooth but rather loosely scaled; second joint flattened toward its end, subclavate; the third short, smooth and pointed. Antennæ rather more than one half as long as the fore wings, simple, setaceous, basal joint subclavate. Tongue sparingly scaled, extremely short, not one-half as long as the labial palpi.

L. **luciferella.**—Head and face silvery, tinged with yellowish. Back-head dark fuscous. Labial palpi silvery; middle joint dark fuscous from the base to the middle, the terminal joint with a minute fuscous dot at its base. Antennæ dark fuscous. Fore wings dark reddish fuscous, with a large, rather faint bluish silvery patch at the base, one on the middle of the costa, and a curved band near the tip of the wing, of the same hue. On the fold beneath the costal patch, is a patch of raised scales, and another on the inner margin joining the band behind. Exterior to the band the wing is touched with ochreous, containing in the middle a short dark fuscous streak, sometimes a pale yellowish white streak margined with dark fuscous, and on the costa just behind it, is a short pale yellowish-white streak, margined exteriorly with dark fuscous. Apical portion of the wing is dark fuscous; cilia of inner margin fuscous. Hind wings fuscous, cilia the same.

Fore wings slenderly and shortly caudate at the tip. Apical vein with a long fork, with an independent discal nervure beneath it. Median four-branched. Submedian with a long basal fork, no apical fork, but with the end of the fold thickened. Labial palpi recurved, thickened at the end of second joint with loose scales; the third rather long, smooth and pointed. Tongue nearly as long as the anterior coxæ.

L. **Eloisella.**—Head, face and thorax silvery white, the latter spotted with blackish. Labial palpi white, with a dark brown spot on the middle of second joint, and two dark brown rings on the third, one at the base and one at the tip. Antennæ tawny yellow, white at base. Fore wings silvery white, with a small tuft of tawny scales at the basal third of the fold, and a larger patch of the same hue on the inner margin at the end of and above the fold. Between the tufts, is an oblique dark brownish costal streak, nearly joined at an angle by another of the same hue in the middle of the wing and exterior to the first tuft; the fold is tinted with golden yellow. Exterior to the second tuft is a blackish-brown streak, which becomes diffuse behind and above, while the apical portion of the costa to the slender apex of the wing is golden yellow. At the base, beneath the fold, is a blackish-brown spot, and another of the same hue beneath the fold equidistant from the first and the first tuft of scales, and on the costa midway between these latter is a rather faint dark brownish spot. Cilia yellowish gray. Hind wings tawny-grayish, cilia ochreous.

Chrysocorys Curtis.

C. **Erythriella.**—Head, face and thorax fuscous, with a greenish-brassy hue. Labial palpi ochreous, terminal joint fuscous. Antennæ bronzy-yellowish fuscous. Fore wings reddish-fuscous, with a greenish-brassy hue; cilia fuscous. Hind wings reddish fuscous, cilia the same.

Specimens of this insect reared by myself were much smaller than those taken on the wing, had less of the brassy hue and were nearly uniform *grayish fuscous*, but I have no doubt it is the same insect.

The larva feeds on the fruit racemes of Sumach. It tapers anteriorly and posteriorly, incisures deep, segments elevated in the middle, with a single row of transversely arranged epidermic points on each ring, each one giving rise to one or two rather stiff hairs; abdominal legs very slender and short, terminal placed posteriorly. Head with a few hairs, ellipsoidal, pointed rather small, and pale brown. The body is uniform dark green. "Frass" scarlet.

The cocoon was woven on the outside of the raceme. It was ovoid, and appeared to consist of coarse silk and but a single thread, being woven so as to leave large meshes, enabling one to see the pupa through it distinctly. At maturity the pupa case is thrust forth. The pupa is pale green, with the head-case distinctly separated from the case of the thorax. The length of the larva is about two lines, of the pupa about one and a half.

The larva may be taken in July; the imago appears early in August and may be taken on wing at this time in the neighborhood of the food plant of the larva.

ELACHISTA Treitschke.

I would beg here to call the student's attention to the fact, that the genus described in Paper No. 3, January, 1860, under the name *Cosmiotes*, is the same as the present one. I much regret the existence of this error; it is not, however, necessary to state how I came to be misled.

Median vein of hind wings two-branched. Apical vein of fore wings with a branch from its middle to the costa, bifid at the tip; median vein two-branched.

E. præmaturella.—Head, face and labial palpi grayish fuscous. Antennæ rather dark fuscous. Fore wings fuscous with a purplish hue. Rather behind the middle of the wing is a white band, silvery-hued, and near the tip a costal and opposite dorsal spot of the same hue. Extreme apex of the wing white, with a row of dark brown atoms in the cilia, which are fuscous. Hind wings bluish-gray, cilia fuscous with a reddish hue.

The imago may be taken on wing early in April.

BRENTHIA.

Fore wings almost *cuneiform*, rounded behind. The subcostal nervure sends a vein to the costa from the middle of the cell, and subdivides into two branches at the point of junction with the discoidal nervure; arising from this are *five veins* to the hinder margin, and the median nervure subdivides into two branches at its tip. The subcostal is furcate at its base. The hind wings are broad, irregularly oval. The subcostal is simple. The discoidal does not join it, gives rise to *three veins* to the hind margin, and is deflected towards the base. The median is two-branched, the upper one being bifid about its middle.

Head smooth. Forehead and face rounded. Ocelli large. Eyes oval, and rather prominent. Labial palpi moderately long, rather slender, pointed and somewhat squamose; the terminal joint shorter than the second. Antennæ slender, simple in the ♀, rather densely ciliated in the ♂. Tongue slightly scaled and very short.

The insect belonging to this genus, which is nearly allied to *Glyphipteryx* of Hübner, has the curious habit of strutting about broad leaves in shaded places, with its fore wings somewhat spread and the hind wings turned forward at right angles to the costa of the fore wings, so as to display the surface of the under pair. It is easily recognized by this characteristic alone.

B. pavonacella.—Head and thorax fuscous; face whitish beneath. Labial palpi white, with three fuscous rings, one at the end of the second joint, one at the base of the terminal and one near its tip. Antennæ fuscous, annulated with white. Fore wings fuscous, mottled with whitish, especially on the middle of the wing, with a fuscous spot on the middle of the disk, ringed with whitish. Near the hinder margin is a black band, not extended to the costa nor the inner margin, with two sharp indentations of the general hue internally, and containing on its middle a streak of brilliant scarlet-blue metallic scales. Along the costa are one or two faint spots of the same hue. Hind wings fuscous, whitish at the base and along the costa, with a short white line near the hind margin, above the inner angle of the wing, and a rather faint scarlet-blue metallic hued band on the hind margin, from near the tip to beyond the middle. The under surface of both wings show a metallic hued subterminal band.

Imago on wing in July and August.

PIGRITIA.

Fore wings narrow, elongated, pointed and very slightly retuse on the costa before the tip. The subcostal sends to the costa, beyond the apical third of the wing, a long, thick vein which arises behind the middle, and subdivides into three branches at its tip, the apical being forked, with one of its branches delivered to the tip, and the other to the costa before it. The discoidal cell is much elongated and narrow, and sends to the hinder margin a disco-central branch. The median is three-branched at its tip, all of which are short, and the two upper veins arise on a common stalk. Submedian is forked at the base, with the lower branch nearly obsolete. Hind wings narrowly lanceolate, broad at base, with interior basal angle rounded. The subcostal vein is simple, and extended to the tip. Discoidal cell closed by a very faint nervure, giving rise to a *simple nervule.* Median nervure is three-branched, the last two branches from a common base.

Head smooth, with decumbent scales, slightly retracted. Forehead broad and rounded; face, with the scales spreading out at the base of the tongue, so as to make it nearly equally broad. Eyes oval, vertically placed. Ocelli small. Labial palpi very short, smooth; first and second joints rather thick; terminal joint pointed, slender, and as long as the second. No maxillary palpi. Antennæ setaceous, simple in the ♀, microscopically pubescent in the ♂, rather more than one-half as long as the fore wings; basal joint flattened and expanded into a small eye-cap, with cilia in front. Tongue scaled, rather longer than the thorax beneath.

I have but one male, which is *without labial palpi.* With the aid of good lenses, I cannot make out whether they have been broken off, or whether they are naturally obsolete. Otherwise, the head is in most perfect condition.

The genera *Zelleria* and *Ocnerostoma* are congeneric with this in the neuration of the wings, especially the hinder pair in the latter genus.

P. laticapitella.—Head, face and thorax shining tawny fuscous. Labial palpi dark fuscous. Antennæ fuscous, basal joint tawny fuscous. Fore wings dark fuscous, with a rufous tinge, sprinkled with white, especially toward the tip, with an indistinct whitish band behind the middle of the wing; cilia pale rufo-fuscous. Hind wings greyish-fuscous; cilia the same.

PARASIA ? Duponchel.

Fore wings lanceolate. The subcostal nervure sends three veins to the costa, the first from the middle of the cell, and an apical branch which delivers from its middle a branch to the costa, and is forked before the tip, with one of the branches above and the other beneath it. The discoidal cell is closed, but gives rise to no nervule. The median fan-branched, more separated than in *Evagora*, and all the branches long. Submedian is forked at the base. Hind wings with the apex produced. The submedian is forked *beyond the discal nervure*, which gives rise to a disco-central branch. The median is three-branched.

Head smooth, with loose, decumbent scales. Forehead advanced; globose, face retreating. *Ocelli small.* Eyes oval, vertically placed, but little visible from the front. Labial palpi rather short, recurved, smooth, with appressed scales; second joint thick, subclavate; third joint short, very acuminate. Maxillary palpi short, distinct. Antennæ simple, setaceous, one-third less long than the fore wings. Tongue clothed with scales, scarcely as long as the anterior coxæ.

This insect and Evagora apicitripunctella certainly approach each other closely in structure; nevertheless, they are very different in appearance. The hind wings differ from those of Parasia in the produced apex being straight, and slightly in neuration.

P. ? subsimella.—Head, face and thorax ochreous-fuscous. Labial palpi, second joint dark brownish, ringed with whitish at its tip; third joint white, terminal half black. Antennæ dark fuscous, basal joint striped with yellowish in front. Fore wings dark ochreous-fuscous; along the costa from its middle, and toward the tip, brown; and in the latter part much sprinkled with whitish. On the middle of the costa is a short, yellowish white streak, and in the apical third of the wing is an oblique line of the same hue, meeting in the middle of the wing another of the same hue from the inner margin. At and beneath the tip is a blackish brown spot, and in the cilia a dark fuscous line. Hind wings dark ochreous, cilia the same.

DEPRESSARIA Haworth.

D. Lecontella.—Head and face ochreous. Labial palpi ochreous; second joint varied externally with fuscous; third joint with a slight fuscous ring at the base, and one near the tip. Antennæ fuscous. Thorax ochreous, with two blackish brown dots before. Fore wings dark ochreous, with dispersed blackish brown dots throughout the wing, two of which, about the middle of the median nervure, are more conspicuous than the others; cilia rather pale ochreous. Hind wings pale grayish-ochreous, cilia the same.

This is the only true Depressaria I have found thus far; but we have other nearly allied species, which differ from it in the structure of the labial palpi. In this respect they resemble somewhat Gelechia rufescens of Europe, but differ from the genus to which it belongs in several particulars. I think they must form a group intermediate between Depressaria and Gelechia.

I have now nearly worked up my collection of Tineina, and would beg those who feel interested in the continuation of these studies, to aid me in extending my knowledge of species, by contributing collections from their various neighborhoods.

Description of a new species of Marginella.

BY JOHN H. REDFIELD.

MARGINELLA ROSCIDA Redf.

T. rhombico-ovatâ, politâ, cinereo-lutescente, albido guttulatâ, versus apicem albido-lineatâ; labis albo, crasso, reflexo, extùs fulvo trimaculato, intùs subdenticulato; spirâ modicâ; anfractus quatuor exhibente; anfractu ultimo angulato, juxta aperturam calloso; columellâ quadriplicatâ.

Shell rhombic-ovate, polished, light grayish brown, minutely flecked with white; towards and upon the spire the white spots tend to be confluent in longitudinal lines. Lip white, well thickened, obtusely reflected, extending a little upon the penultimate whorl, slightly denticulate within, and bearing three brown spots, one at its junction with the spire, a second about midway, and the third near the base. Spire moderate, apex slightly colored, with about four whorls visible; the last whorl is distinctly shouldered, a little beneath the suture and near the aperture shows a vitreous deposit. Columella with four plaits; upper ones somewhat oblique, lower ones more so. Aperture yellowish brown within. Length 0·57 in. (14 millim.); breadth 0·32 in. (8 millim.)

Habitat. Coast of South Carolina.

Remarks. The general form of this shell is nearly that of *M. apicina* Menke, and the spots upon the outer lip give it a further likeness to some varieties of that species, but the spire is more developed, and the last whorl more distinctly angular than is usual in *M. apicina*, while the latter never displays the minute white flecking of the species under consideration. This last feature is common also to *M. guttata*, *M. nivosa* and *M. pruinosa*, but all these are quite different in form and in development of spire.

Descriptions of new Organic Remains from the Tertiary, Cretaceous and Jurassic Rocks of Nebraska.

BY F. B. MEEK AND F. V. HAYDEN.

The following new species of fossil mollusca, belong mainly to the collections brought from Nebraska by the expeditions under the command of Lieut. G. K. Warren, of the U. S. Top. Engrs. in 1856–7 and 8. More extended descriptions of these and the other species already described by us from that region, together with remarks, comparisons, and full illustrations, will appear in Lieut. Warren's final report.

TERTIARY SPECIES.

GASTEROPODA.

Helix Evansi, A. & H.—Shell small, suborbicular, spire depressed; volutions four and a half to five, obliquely compressed, or a little convex above, rounded on the outer side, and very convex below, the most prominent part being near the umbilicus, concave within, and each embracing on the upper side about half, and below nearly the whole breadth of every succeeding inner turn; surface unknown; umbilicus rather small, or about equalling the breadth of the widest part of the outer volution; aperture nearly obovate, its longer diameter being directed outward and upward. Height, 0·10 inch; breadth, 0·17 inch.

Named in honor of Dr. John Evans, Geologist, of Oregon.

Locality and position. Estuary beds at the mouth of Judith River.

Planorbis vetulus, M. & H.—Shell discoidal, much compressed, spire slightly concave, umbilicus shallow, very little broader than the concavity on the upper side, and rather more than one-third wider than the outer whorl, showing about half of each inner turn; volutions three and a half to four, compressed convex above and below, the upper side being a little more convex than the other, and sloping slightly outward from near the inner margin, rather distinctly angular around the outer side, a little below the middle, and deeply concave within for the reception of each succeeding inner whorl; sutures well defined, though not very deep; aperture sub-cordate, approaching an irregular hastate outline, very slightly oblique, having its longer axis in the direction of the greatest breadth of the shell; surface apparently nearly smooth, or only showing obscure marks of growth. Greatest breadth 0 23 inch; height 0·05 inch.

Locality and position. Upper part of the Tertiary forming the Bad Lands of White River.

Planorbis Leidyi, M. & H.—Shell small, subdiscoidal; spire flat, or a little concave; volutions scarcely three, increasing rather rapidly in size, not embracing on the upper side, inner ones almost entirely hidden by the last turn below, all convex above, rather narrowly rounded on the upper outer side, ventricose and rounded below; suture will defined; umbilicus small, or less than half the breadth of the outer whorl, deep and scarcely permitting the inner volutions to be counted; surface marked by fine delicate lines of growth; aperture subcircular, or obliquely a little oval, flattened or somewhat concave on the inner side. Greatest breadth, 0·22 inch; height, 0·09 inch.

Named in honor of Prof. Jos. Leidy of Philadelphia.

Locality and position, same as last.

CONCHIFERA.

Sphærium planum, M. & H.—Shell rather small, broad oval or subcircular, much compressed; extremities more or less regularly rounded, the posterior margin being sometimes faintly subtruncate; base semi-oval in outline; cardinal margin rounding gradually from near the middle; beaks very small, compressed, and scarcely extending beyond the hinge margin, nearly central; surface marked by fine irregular, obscure, concentric striæ. Length, 0·38 inch; height, 0·32 inch; convexity 0.08 inch.

Locality and position. Near the mouth of Grand River on the Upper Missouri.

Sphærium recticardinale, M. & H.—Shell of medium size, transversely subelliptical, rather compressed, very thin; anterior side rounded; base forming a regular semielliptic curve; posterior extremity obliquely subtruncate above, and rather narrowly rounded below; cardinal margin long and straight; beaks very small, compressed, and projecting but slightly above the hinge, located nearly half way between the middle and the anterior end; surface marked by moderately distinct, irregular lines of growth. Length, 0·55 inch; height, 0·36 inch; breadth, 0·24 inch.

Locality and position, same as last.

Cyrena (Corbicula ?) cytheriformis, M. & H.–Shell broad trigonal ovate, varying to subcircular, rather thick and strong; extremities more or less rounded; base semiovate, usually more prominent before than behind the middle; dorsal outline sloping from the beaks, the anterior slope being more abrupt than the other, and slightly concave, while the posterior is convex; beaks rather elevated, moderately gibbous, located in advance of the middle; surface marked by fine lines of growth, which sometimes show a very slight tendency to gather into small irregular concentric wrinkles. Length, inches; height, inch; thickness, inch.

Locality and position. Estuary beds, near mouth of Judith River.

CRETACEOUS SPECIES.

CEPHALOPODA.

Genus Phylloteuthis, M. & H.

Phylloteuthis subovatus, M. &. H.—The specimens on which we propose to found this genus and species consist of the expanded portion of the pen or gladius. This organ seems to have been corneous, and is thin, very wide or subovate in form, a little concave on the under side, and convex above. From behind the middle it narrows towards the front, the outline of the lateral margins being convex, while the posterior end is more or less obtusely angular. The shaft is broken away in our specimens, but that portion of it extending backward and forming the midrib of the expanded part, is narrow, prominent, and rather sharply carinate above, while on the under side it is merely represented by a narrow groove. The lateral expansions are crossed a little obliquely backward and outward, at an angle of about 65° from the midrib, by numerous slender, ridged parallel striæ, which are very nearly straight, or very slightly curved backward near the outer margins. Length of expanded part, exclusive of the shaft, 1·55 inch; breadth of do., 0·82 inch.

Apparently near the Liassic genera *Beloteuthis* and *Teudopsis*, or at any rate to species that have been, with doubtful propriety, ranged in these groups.

Locality and position. Moreau River, in formation No. 5.

Helicoceras angulatum —Of this shell we have seen but a single nonseptate fragment, 2·78 inches in length, with a diameter of 1·50 inches at the larger end, and 1·37 inches at the smaller. It is rounded, or subcylindrical, and makes a broad (sinistral ?) spiral curve, in such a manner that if continued around, the volutions would be disconnected, and encircle an umbilical cavity apparently more than three times their own breadth. The surface is ornamented by distinct angular costæ, which pass around the whorls obliquely and support two rows of nodes on the lower outer side, where they sometimes bifurcate. Septa unknown.

Locality and position. Head of south branch of Shyenne River, in the upper part of formation No. 4, of the Nebraska series.

Ammonites placenta, var. intercalaris.—It is possible this shell may be specifically distinct from *A. placenta* of Dekay, but it agrees with that species so nearly that we are in doubt about the propriety of considering it entitled to rank as a species. It differs externally from the typical forms of Dekay's species, in being rather less compressed, and in having a slightly larger umbilicus, while instead of a single series of scarcely perceptible transversely elongated prominences on each side, it has a row of small, but distinct nodes a little less than one-third of the way across from the dorsum, and another more prominent series near the umbilicus. It also differs in having a row of small, pinched, alternating nodes on each of the two dorsal angles.

With these external differences, however, the septa of the shell under consideration, are so very similar in all their details to those of *A. placenta*, that we are at present inclined to regard it as a variety of that species.

It is also worthy of note, that the form before us is closely related to *A. syrtalis* of Morton, being in fact almost exactly intermediate between that shell and *A. placenta*, as well in form and external ornaments, as in the characters of its septa. Its exact relations to these species can perhaps only be settled by a careful comparison of a more extensive series of specimens than has yet been obtained; in the mean time it may be made known as a subspecies, under the name *A. placenta*, var. *intercalaris*, and should it prove distinct, it may take the latter as a specific name. It seems to attain a large size. Our specimen, which consists of inner septate whorls, is 5·70 inches in its greatest diameter, with a thickness or convexity of 1·62 inches.

Locality and position. Sheyenne River, in the upper part of Formation No. 4 of the Nebraska Cretaceous series.

Ammonites Vermilionensis, M. & H.—Shell compressed discoidal; umbilicus large, very shallow, and showing about four-fifths of each inner whorl; volutions five or more, rather sharply carinated around the middle of the dorsum, and ornamented on each side by nearly straight, simple, moderately strong, obtuse costæ, which show a tendency to develope nodes at each extremity. Greatest diameter 1·05 inches; convexity about 0·29 inch.

Locality and position. Mouth Vermilion River, in Formation No. 2, of the Nebraska section.

Scaphites Warreni, M. & H.—Shell small, transversely subovate, moderately compressed, rounded on the dorsum; umbilicus rather small; volutions subcylindrical, height and breadth nearly equal, increasing gradually in size; non-septate portion of last turn slightly compressed laterally, and deflected from the regular curve of the others, so as to become nearly or quite disconnected at the aperture. Surface of the inner whorls ornamented by numerous small costæ, which increase chiefly by implantation, and all cross the dorsum very regularly without arching; on the sides of the non-septate outer chamber, about every fourth or fifth one of the costæ is much more prominent and sharper than the others, and extends quite across to the umbilical side, while those between die out, or coalesce with the others at various distances.

Length 1·45 inches; height about 1·22 inches; breadth 0·57 inch.

Locality and position. Near the Black Hills, in formation No. 2 of the Nebraska Section.

Scaphites nodosus, var. plenus.—We suspect the noble specimen we here propose to notice provisionally, as a variety of Dr. Owen's *Scaphites nodosus*, may prove to belong to a distinct species, but as we are not yet fully satisfied on this point, it is perhaps better to regard it, for the present, as a marked variety of Dr. Owen's species; and should further comparison demonstrate that it is entitled to rank as a species, it can take as a specific name that by which we have designated it as a variety. It differs externally from Dr. Owen's figure of *S. nodosus*, in being greatly more ventricose, and shorter in proportion to its height, while its inner rows of nodes are much smaller and nearer the umbilicus. There are also some differences in the details of the septa, which cannot, however, be readily explained without figures. It is likewise much larger than the specimen represented by Dr. Owen, or any individuals of that form we have seen, its length being 4·57 inches; height 3·87 inches, and its breadth 2·53 inches.

Locality and position. On Yellow Stone River, 150 miles above the mouth, in the upper part of formation No. 4 of the Nebraska Cretaceous Series.

GASTEROPODA.

Aporrhais parva, M. & H.—Shell small, conical, subfusiform; spire moderately elevated, and acute at the apex; volutions six or seven, separated by a small but rather distinct suture, and having around the middle a single series of very oblique, flexuous folds, or node-like costæ, which do not extend to the suture either above or below; last whorl having just below the row of nodes, a small but well defined revolving angle; surface marked by very obscure lines of growth, and fine, closely set, revolving striæ. Length about 0·28 inch; breadth of body whorl, 0·15 inch; apical angle a little convex, divergence 33°.

Locality and position, same as last.

Aporrhais sublevis, M. & H.—Shell conical, or subfusiform; spire elevated; volutions seven or more, convex, and separated by a rather distinct, though not deep suture; last one convex above, and abruptly contracted below, having a (single ?) small, revolving angle, which passes around to the suture, but is not seen on the succeeding turn above. Surface polished, and marked by moderately distinct, arcuate lines of growth, which are crossed by rather obscure revolving lines, nearly equalling the spaces between, on the spire, but more distant, with sometimes a few indistinct, irregular, very fine, parallel striæ between on the body whorl; aperture and lip unknown. Length about 0·54 inch; breadth of body whorl, 0·26 inch; apical angle slightly convex, divergence 37°.

Locality and position. Yellow Stone River, Upper part of No. 4, Nebraska section.

Dentalium pauperculum, M. & H.—Shell small, arcuate, slender and tapering gradually; section circular; substance comparatively thick; surface smooth, but showing under a magnifier extremely fine, obscure lines of growth, which pass around somewhat obliquely. Length (of an incomplete specimen, measuring from the apex,) 0·36 inch; diameter of same at apex 0·03 inch, do. at larger extremity 0·06 inch.

Locality and position. Moreau River, formation No. 5 of the Nebraska section.

Cylichna scitula, M. & H.—Shell small, rather thick, narrow, subelliptical, or subcylindrical; spire entirely hidden; summit truncate, and occupied by a comparatively large umbilicoid depression; aperture very narrow, moderately arched, and equalling the greatest length of the shell; umbilical region slightly impressed; inner lip reflexed upon the columella, which seems to be slightly twisted, so as to form a small indistinct fold at its base; surface marked by fine, obscure lines of growth, which are crossed by impressed, revolving striæ, separated by spaces about twice or three times their own breadth, near the middle of the outer whorl, but becoming much more closely crowded towards the extremities. Length 0·24 inch; breadth 0·14 inch; widest part of aperture 0·07 inch, breadth of same near upper extremity, only 0 02 inch.

Locality and position. Moreau River, No. 5 of the Nebraska section.

CONCHIFERA.

Teredo selliformis, M. & H.—Shell small, subglobose; posterior side narrowly rounded above, gaping, and having a broad, more or less angular notch below; antero-ventral side provided with a large hiatus, formed by a similar, but deeper rectangular notch, which extends from the base nearly half way up to the beaks, and back almost to the middle of the valves; base, between the anterior and posterior notches, extended downward in the form of a narrow prolongation, which curves under, and is the only part of the ventral borders of the two valves that come in contact; beaks elevated, gibbous, incurved, and located between the middle and the anterior margin; surface ornamented by small concentric lines, which are curved, and deflected parallel to the great irregularities of the free borders, and crossed by two distinct radiating grooves, one of which passes from the back part of the beaks obliquely downward and backward to the corner of the posterior notch, and the other nearly directly downward to the extremity of the ventral prolongation. Length, of a medium sized specimen, 0·16 inch; height 0·14 inch; gibbosity 0·13 inch.

Locality and position. Fort Clark, on the Missouri, in formation No. 5.

Mactra Siouxensis, M. & H.—Internal cast oval-subtrigonal, moderately gibbous; anterior border narrowly rounded; posterior margin subangular at the extremity; base forming a nearly semiovate curve, the most prominent part of which is in front of the middle; dorsal outline declining with a slightly convex outline behind the beaks, and distinctly concave in front of them; beaks prominent, rather gibbous, very nearly central; pallial impression provided with an oval sinus, which appears to be a little narrower behind than in the middle, rounded at the anterior extremity, and extending nearly in a horizontal direction, about three-fourths of the way towards the middle of the valves. Length 1·55 inches; height, 1·22 inches; convexity 0·76 inch.

Locality and position. Near mouth of Big Sioux River, in formation No. 1, of the Nebraska Cretaceous series.

Mactra gracilis, M. & H.—Shell small, rather thin, ovate-subtrigonal, moderately gibbous, anterior end rounded, a little broader than the other; base forming a broad semiovate curve, being usually more prominent towards the front than behind; posterior margin rather narrowly rounded, or subtruncate; beaks moderately prominent, and located slightly in advance of the middle; escutcheon comparatively large, lance-ovate in form; surface marked by distinct, regular lines of growth: hinge unknown. Length 0·49 inch; height 0·38 inch; convexity about 0·24 inch.

Locality and position. On Yellowstone River, 150 miles above the mouth, in beds containing a mingling of the fossils of No. 4 and 5.

Tellina? formosa, M. & H.—Shell subelliptical, very thin, moderately convex; anterior extremity a little wider than the other, but very narrowly rounded; posterior side subangular at the extremity; base forming a semi-elliptical curve; dorsum sloping gradually, with a slightly convex outline in front and rear; beaks small, and located almost exactly in the middle; surface marked by rather obscure, irregular lines of growth, and extremely fine radiating striæ, only visible by the aid of a magnifier; hinge unknown. Length 0·67 inch; height 0·40 inch; convexity (of a right valve) about 0·13 inch.

Locality and position. Twenty miles below mouth of Cannon Ball River, formation No. 5.

Cyprina humilis, M. & H.—Shell ovate, gibbous, thick, very oblique; anterior margin scarcely extending beyond the beaks, abruptly rounded below; base semiovate in outline, most prominent towards the front, sometimes a little contracted behind; posterior extremity rounding obliquely, with a broad curve from the dorsum to the postero-basal extremity, which is narrowly rounded; beaks very oblique, almost overhanging the anterior border, declining and turned a little inwards at the extremities; umbonal slopes prominent from near the beaks obliquely backward to the lower part of the anal margin; surface marked by distinct, subimbricating lines of growth. Length 1·70 inches; height 1·34 inches; breadth 1·30 inches.

Locality and position. North branch of Cheyenne River, near Black Hills, formation No. 5.

Avicula subgibbosa, M. & H.—Shell (left valve) obliquely rhombic-oval, or ovate, moderately gibbous; anterior margin contracted, or a little concave in outline just below the wing, from which point it descends obliquely backward, with a broad, gently convex sweep, into the base; posterior border rather broadly rounded below, distinctly sinuous under the wing above; hinge line straight, a little less than the height of the shell. Anterior wing forming an equilateral triangle, compressed, and rather distinct from the umbo; posterior wing having the form of a very inequilateral triangle, the posterior side of which is much the shortest, compressed, moderately distinct from the more gibbous part of the valve, forming an angle of about 50° at the extremity; beak small, slightly elevated above the hinge, gibbous, located a little less than one-third the length of the hinge, behind the anterior extremity; posterior muscular scar large, oval or ovate, and located a little above the middle. Height 1·40 inches; length, measuring from the postero-basal extremity obliquely forward and upward to the point of the beak, 1·72 inches; length of hinge 1·32 inches.

This species resembles *A. linguiformis*, Evans & Shumard, but is much broader and less oblique, while its postero-basal margin is more broadly rounded. Our specimen is a cast, and does not show the surface-markings, excepting on the anterior wing, where the marks of growth are rather distinct and subimbricating.

Locality and position. Long Lake, above Fort Pierre, formation No. 5.

Inoceramus cuneatus, M. & H.—Shell oblong-ovate, moderately gibbous in the umbonal and anterior regions, very nearly or quite equivalve, rather thin; buccal side descending from the beaks at first, almost at right angles to the hinge, after which it gradually curves obliquely backward and downward, so as to pass by a graceful sweep into the base; posterior side long, compressed, broader than the other extremity, and regularly rounded; ventral border forming a semiovate curve, the most prominent part of which is behind the middle; hinge very long, and nearly straight. Beaks very nearly terminal, or located almost directly over the anterior border, oblique, rising little above the hinge, equal, and but slightly incurved. Surface marked by rather distinct, more or less regular undulations. Length 3·90 inches; height 2·75 inches; convexity 2 inches.

Locality and position. Yellow Stone River, 150 miles above the mouth, in beds containing a blending of the fossils of formations Nos. 4 and 5.

Inoceramus Vanuxemi, M. & H.—Shell large, subcircular or broad oval, equivalve, and much compressed; anterior margin rounded; base forming a nearly semicircular curve, being a little more prominent behind than in front; posterior side longer and wider than the other, broadly rounded or subtruncate; hinge (of moderate length ?) straight, and forming an angle of about 70° with the axis of the umbones. Beaks small, compressed, scarcely rising above the hinge, not distinctly incurved, located a little in advance of the middle. Surface ornamented by regular, distinct, angular, but not very prominent concentric undulations, which are separated by rather shallow depressions. Length of the largest specimen we have seen, 10 inches; height of do. 9 inches.

Locality and position. White River above the Bad Lands, in upper part of formation No. 4.

Inoceramus Balchii, M. & H.—Shell large, subquadrate, or broad oblong-oval, much compressed; anterior side truncate obliquely forward above, at an angle of about 115° with the hinge, rounding into the base below; ventral margin forming a broad curve, the most prominent part of which is a little behind the middle; posterior side longer and wider than the other, broadly rounded, (sometimes subtruncate above ?); hinge line rather long, forming an angle of about 60° with the umbonal axis. Beaks narrow, rising somewhat above the hinge, scarcely incurved, located about half way between the middle and the most prominent part of the anterior border. Surface ornamented by very slightly elevated, broadly rounded, rather irregular undulations, which become entirely obsolete on large specimens below the middle, and on the posterior as well as the lower anterior regions. Attains a diameter of 3½ to 4 inches.

Named after Lieut. G. T. Balch, of U. S. Ordinance—who discovered the only specimens of the species we have seen.

Locality and position. White River above the *Mauvaises Terres.*

Inoceramus subcompressus, M. & H.—Shell rhombic-oval, compressed, very thin; anterior side rounded below the beaks; base forming a long semiovate curve, the most prominent part of which is behind the middle; posterior side long, very narrowly rounded and prominent below the middle, subtruncate obliquely forward above; hinge of moderate length, forming an angle of about 40° with the umbonal axis. Beaks small, scarcely rising above the hinge, located nearly over the anterior extremity. Surface ornamented by somewhat regular concentric undulations. Length 2·55 inches; height 1·70 inches.

Locality and position. Mouth of Judith River, formation No. 1? of Nebraska section.

Inoceramus aviculoids, M. & H.—Shell compressed, often broad ovate or subcircular when young, but becoming obliquely oval or subrhomboidal in outline as it advanced in age; substance thin and fragile. Anterior and basal margins forming a broad gentle curve; posterior extremity narrowly rounded below, ascending obliquely forward, with a slightly convex outline above, and meeting the hinge at an angle of about 120°. Hinge margin long, straight and compressed, so as to form an alate expansion behind. Beaks nearly terminal, scarcely rising above the hinge, not gibbous or distinctly incurved. Surface ornamented by more or less regular concentric undulations and obscure lines of growth. Length from the beaks obliquely backward and downward to the postero-basal edge, about 3 inches; height from base to hinge, 2·30 inches.

Locality and position. Little Blue River, formation No. 3.

Anomia obliqua, M. & H.—Shell thin, broad oval, subcircular, or somewhat irregular, and more or less oblique; upper valve rather convex, beak nearly or quite marginal, and placed nearer the anterior side, moderately gibbous; surface marked concentrically by fine obscure lines, and small wrinkles of growth. Length about 1·32 inches; breadth 1·16 inches.

Locality and position. Near mouth of Niobrara River, in formation No. 3 of the Nebraska section.

Anomia subtrigonalis, M. & H.—Shell subtrigonal, approaching subcircular, extremely thin and fragile; upper valve moderately convex; anterior side subtruncate, with a slightly convex outline, rounding abruptly at its junction with the ventral margin; posterior side obliquely truncate from the beak, and very narrowly rounded at its connection with the ventral border, provided with a broad, oblique, rounded fold; pallial margin nearly straight, or but slightly convex; umbo marginal and rather prominent. Lower valve nearly flat, or compressed, and more irregular than the other. Surface marked by small, irregular, concentric wrinkles, and very obscure lines of growth. Length 1·57 inch; breadth 1·14 inch.

Locality and position. Bijou Hill, on the Missouri, formation No. 4.

Ostrea inornata, M. & H.—Shell small, narrow subovate, rather thin, attached by the whole under surface of the lower valve; beaks pointed and curved usually to the left side; under valve conforming to the contour of the surface to which it adhered, moderately concave, area small and narrow; upper valve rather convex, having its beak less pointed than that of the other valve;

surface smooth, or only marked by very obscure lines of growth, with sometimes a few very small, irregular, nearly obsolete radiating wrinkles near the lower border. Length about 1·40 inches; breadth 0·87 inch.

Locality and position. Great Bend of the Missouri, below Fort Pierre—lower part of No. 4, Nebraska section.

JURASSIC SPECIES.

CONCHIFERA.

Pholadomya humilis, M. & H.—Shell transversely oblong-oval, ventricose; posterior end rounded, and more or less gaping; base nearly straight along the middle; anterior end very short, narrowly rounded below the beaks; dorsum nearly parallel with the base, slightly concave in outline; escutcheon lanceolate, and bounded by an obscure angle on each side; beaks depressed, gibbous, incurved, and located in advance of the middle; surface ornamented by small, regular, concentric wrinkles, crossed by a few raised lines, or obscure, distant, radiating costæ, extending from the back part of the beaks, to the posterior, and postero-basal margins. Length about 1·06 inch; height 0·52 inch; breadth 0·52 inch.

Locality and position. Lower Jurassic series, at the south-west base of the Black Hills.

Myacites Nebrascensis, M. & H.—Shell elongate, subelliptical, rather convex; extremities narrowly rounded, the posterior end being sometimes apparently obliquely subtruncate, and more or less gaping above; base nearly straight, or very slightly sinuous along the middle, rounding up gradually towards the ends; dorsum behind the beaks concave in outline; posterior umbonal slopes gibbous, or prominently rounded; antero-ventral region a little compressed, or contracted from near the middle of the base obliquely forward and upward; beaks moderately elevated, gibbous, incurved, and located near the anterior end; surface ornamented by concentric striæ, and small, very obscure, irregular parallel wrinkles. Length about 1·43 inch; height 0·69 inch; breadth 0·59 inch.

Locality and position. South-west base Black Hills. Jurassic.

Thracia? sublevis, M. & H.—Shell narrow oblong-oval, rather compressed; anterior end narrowly rounded; base nearly straight along the middle, rounding up toward the ends; posterior side longer than the other, rounded or slightly truncate, and apparently gaping a little at the extremity; dorsal border concave in outline, and nearly horizontal behind the beaks, declining more abruptly in front; beaks moderately elevated, the right one being usually a little higher than the other, located in advance of the middle; posterior umbonal slopes prominently rounded; surface concentrically striate; hinge and interior unknown. Length 1·17 inch; height 0·60 inch; breadth about 0·32 inch.

Locality and position. Near the middle of the Jurassic deposits at the south-west base of the Black Hills.

Thracia? arcuata, M. & H.—Shell small, transversely subovate, more or less arcuate, moderately convex; extremities rather narrowly rounded, and a little gaping; cardinal margin sloping from the beaks, anterior slope more abrupt than the other; beaks rather elevated and unequal, that of the right valve being higher than the other, located in advance of the middle; posterior and anterior umbonal slopes prominent; sides of the valves flattened or slightly concave in the central region near the base; surface of cast retaining small concentric marks of growth; hinge and interior unknown. Length, 0 62 inch; height, 0·37 inch; thickness or convexity, 0·23 inch.

Locality and position. Same as last.

Cardium Shumardi, M. & H.—Shell small, subcircular, rather gibbous; anterior side rounded; base more broadly rounded; posterior side obliquely subtruncate above and passing with an abrupt curve into the base below; hinge margin rather short, and sloping slightly from the beaks, which are moderately elevated, gibbous and nearly central; posterior umbonal slopes angular; surface of cast retaining only traces of small radiating costæ or lines on the prominent posterior umbonal slopes, and flattened postero-dorsal region; hinge and interior unknown. Length 0·44 inch; height 0·37 inch; thickness 0·32 inch.

Named in honor of Dr. George G. Shumard, of the Texas Geological Survey.

Locality and position. Jurassic, beds south-west base of Black Hills.

TANCREDIA? ÆQUILATERALIS, M. & H.—Shell very nearly equilateral, moderately convex; anterior end rather narrowly rounded; base forming a broad, regular, semielliptic curve; posterior end slightly truncate on the upper oblique slope, narrowly rounded below, apparently not gaping; beaks depressed, located a little in advance of the middle; surface of cast retaining traces of concentric striæ; hinge and interior unknown. Length 1 inch; height 0·64 inch; breadth about 0·16 inch.

Locality and position. South-west base Black Hills—Jurassic.

TANCREDIA WARRENANA, M. & H.—Shell small, trigonal ovate, moderately convex, anterior half a little narrower and more compressed than the other, narrowly rounded at the extremity; base forming a broad gentle curve; posterior side subtruncate, angular, or abruptly rounded below; dorsum sloping from the beaks, the anterior slope being slightly concave in outline, and the other nearly straight, or a little convex; beaks elevated, but not extending much above the cardinal edge; posterior umbonal slopes prominent, or subangular; surface and hinge unknown.

Named in honor of Lieut. G. K. Warren, U. S. Top. Engineers.

Length 0·50 inch; height 0·33 inch; breadth about 0·14 inch.

Locality and position. Same as last.

ASTARTE FRAGILIS, M. & H.—Shell small, rather broad oval, thin, moderately compressed; anterior end rounded; base nearly straight along the middle, rounding up regularly in front, and more abruptly behind: posterior extremity obscurely subtruncate; dorsum straight and slightly declining behind the beaks, which are small, obtuse, rather depressed, and located a little in advance of the middle; posterior umbonal slopes prominent; surface ornamented by distinct, irregular concentric wrinkles and fine parallel striæ; hinge and interior unknown; pallial margin crenulate within. Length 0·45 inch; height 0·32 inch; breadth or convexity 0·18 inch.

Locality and position. South-west base of the Black Hills—Jurassic.

ASTARTE INORNATA, M. & H.—Shell subelliptical, compressed; extremities rounded, the posterior margin forming a broader curve than the other; base semielliptical in outline; dorsum declining from the beaks, the anterior slope being a little concave, and the other nearly straight or slightly convex; beaks moderately elevated, compressed, angular in front, located just in advance of the middle; lunule rather deep, lance-oval, bounded on each side by a more or less distinct angle; surface marked by concentric striæ, with a tendency to develop small, very obscure concentric wrinkles. Length 1·15 inches; height 0·79 inch: breadth or convexity 0·44 inch.

Locality and position. Same as last.

TRIGONIA CONRADI, M. & H.—Shell rather small, subtrigonal, moderately convex; anterior side truncate; base rounded; posterior side sloping obliquely from the beaks above, and apparently vertically truncate at the extremity; beaks elevated, narrow, incurved, and located in advance of the middle; posterior umbonal slopes distinctly angular; surface ornamented by rather small, obscure concentric costæ, which on the posterior side of the valves, descend at first perpendicularly, after which they are deflected forward parallel to the basal and anterior borders. Length and height, each about 0·97 inch; convexity 0·58 inch.

Locality and position. South-west base Black Hills, Jurassic.

Named in honor of Mr. T. A. Conrad, the well known palæontologist, of Philadelphia.

Pecten extenuatus, M. & H.—Shell broad ovate, or sub-circular, thin, compressed; basal margin rounded; beaks small; hinge line rather short; ears unknown; surface apparently having only concentric striæ of growth. Height 0·98 inch. length 0·90 inch; convexity 0·28 inch.

Locality and position. South-west base of Black Hills, in a sandstone of lower Jurassic age.

PALÆOZOIC.

Myalina aviculoides, M. & H.—Shell subtrigonal, higher than long, very convex, or sometimes subangular down the umbonal slopes; anterior margin distinctly sinuous above the middle, thence descending with a slightly convex curve, nearly at right angles with the hinge, to the basal extremity, which is narrowly rounded; posterior side compressed, its margin curving a little forward above, or intersecting the hinge at right angles, slightly convex, and nearly perpendicular along the middle, below which it curves obliquely forward to the abruptly rounded basal extremity; hinge straight, nearly equalling the length of the shell; beaks very convex, subangular, and curving rather abruptly forward, so as to become nearly, or quite terminal; surface having moderately distinct marks of growth. Length, 1·48 inch; height, 1·66 inch; convexity, (of left valve), 0·32 inch.

This will be readily distinguished from all the other species of the genus known to us, by its more accurate front, and the extension of its anterior margin under the beaks, above its most sinuous part.

Locality and position. From the upper beds, containing Permian types of fossils, on Cottonwood creek, Kanzas Territory.

Note. In going carefully over these extensive collections, we have in addition to finding the new species here described, succeeded in working from the matrix, better specimens of many of those already published by us, than had been previously obtained. The additional information derived from these, and a more careful review of the subject has enabled us to make several corrections in the synonyma, as well as in the generic references, a list of which is given below.

It will also be observed, that we have made quite a number of other changes, in order to range the species under the oldest generic names proposed after the introduction by Linnæus, of the binomial system. We must confess, however, that we have some doubts whether science is to be much benefitted by a strict observance of the law of priority, in such cases as those where it becomes necessary to change long established names. We nevertheless make some such changes in conformity with usages rapidly gaining ground, and probably destined soon to become universal amongst conchologists and laborers in other departments of Natural History.

The transfer of several species formerly published under the names *Hamites*, *Ancyloceras*? and *Turrilites*, to the genus *Helicoceras*, has been made in accordance with the views of Mr. Daniel Sharpe, (Fossil Mol. Chalk, England, part 3d, Cephalopoda, p. 59, Paleont. Soc.) who refers all the so called *Turrilites* having rounded whorls, with the siphuncle placed on the dorsal or outer side, to the genus *Helicoceras*, whether the whorls are in contact or not. The genus *Turrilites*, he restricts to those forms having more or less angular contiguous whorls, with the siphuncle located near the suture. The fact of the whorls of those forms with rounded volutions being in contact or not, can scarcely be regarded in all cases, of even specific importance, since it is now well known that in some instances the same species presents both these peculiarities, and sometimes the whorls of one part of the spire are in contact, and in others disconnected, even in the same individual.

Our specimens confirm Mr. Sharp's views, for although they are but mere fragments, it is evident they are parts of spiral shells, presenting intermediate gradations between forms with whorls barely in contact, and others in which they are clearly disconnected.

Mr. D'Orbigny describes the septa of the genus *Helicoceras* as being unsymmetrical, like those of *Turrilites*, this, however, is not always the case in species, the whorls of which make a very broad curve around a large umbilical cavity, for in some of our specimens of this kind, the corresponding lobes on opposite sides of the siphuncle, present scarcely the slightest inequality, and in other instances seem to be as nearly symmetrical as in *Hamites*, or any of the allied genera.

Names formerly used.	*Names here adopted.*
Hamites Mortoni, Hall & Meek. *Helicoceras tenuicostatum*, Meek & Hayden.	Helicoceras Mortoni.
Turrilites (Helicoceras) cochleatus, M. & H.	Helicoceras cochleatum.
Ancyloceras ? Nebrascensis, Meek & Hayden. *Turrilites Nebrascensis*, Meek & Hayden.	Helicoceras Nebrascense.
Ancyloceras ? Cheyennensis, Meek & Hayden. *Turrilites Cheyennensis*, Meek & Hayden.	Helicoceras Cheyennense.
Turrilites umbilicatus, Meek & Hayden.	Helicoceras umbilicatum.
Ammonites percarinatus, Hall & Meek, presents extremely different characters, at various stages of its growth; probably not distinct from A. Woolgari, of Mantell.	
Ammonites cordiformis, Meek & Hayden, probably identical with A. Cordatus, Sowerby.	
Planorbis fragilis,* M. & H. (non Dunker.)	Planorris planoconvexus.
Planorbis subumbilicatus, Meek & Hayden.	Valvata subumbilicata.
Planorbis amplexus, Meek & Hayden.	Helix (Polygyra) amplexus.
Paludina Conradi, Meek & Hayden.	Vivipara Conradi.
Paludina multilineata, Meek & Hayden.	Vivipara multilineata.
Paludina Leai, Meek & Hayden.	Vivipara Leai.
Paludina retusa, Meek & Mayden.	Vivipara retusa.
Paludina trochiformis, Meek & Hayden.	Vivipara trochiformis.
Turritella Moreauensis, Meek & Hayden.	Cerithiopsis Moreauensis.'
Scalaria cerithiformis, Meek & Hayden.	Turbonilla (Chemnitizia) cerithiformis.
Turbo Nebrascensis, Meek & Hayden.	Margarita Nebrascensis.
Rostellaria biangulata, Meek & Hayden.	Aporrhais biangulatus.
Fusus contortus. Meek & Hayden.	Pleurotoma contorta.
Buccinum ? vinculum, Hall & Meek.	Fusus vinculum.
Acteon attenuatus, Meek & Hayden.	Solidulus attenuatus.
Acteon concinnus, Hall & Meek, *Avellana subglobosa*, Meek & Hayden.	Avellana concinna.
Acteon subellipticus, Meek & Hayden.	Solidulus (Acteonina ?) subellipticus.
Natica paludinæformis,* Hall & Meek. (non *N paludiniformis*, D'Orbigny.)	Amauropsis paludinæformis.
Bulla subcylindrica,* Meek & Hayden.	Bulla speciosa.
Corbula ventricosa, Meek & Hayden.	Neæra ventricosa.
Corbula Moreauensis, Meek & Hayden.	Neæra Moreauensis.
Cytherea tenuis, Hall & Meek.	Meretrix tenuis.
Cytherea pellucida, Meek & Hayden.	Meretrix pellucida.
Cytherea Deweyi, Meek & Hayden.	Meretrix Deweyi.
Cytherea Owenana, Meek & Hayden.	Meretrix Owenana.
Cytherea orbiculata, Meek & Hayden.	Meretrix orbiculata.
Cyclas formosa, Meek & Hayden.	Sphærium formosum.
Cyclas fragilis, Meek & Hayden.	Sphærium fragile.
Cyclas subelliptica, Meek & Hayden.	Sphærium subellipticum.
Hettangia Americana, Meek & Hayden.	Tancredia Americana.
Nucula Evansi, Meek & Hayden.	Leda Evansi.
Nucula scitula, Meek & Hayden.	Leda scitula.
Cucullæa Shumardi, Meek & Hayden.	Cucullæa fibrosa, Sowerby.
Pectunculus Siouxensis, Hall & Meek.	Axinæa Siouxensis.
Pectunculus subimbricatus, Meek & Hayden.	Axinæa subimbricata.

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*The names followed by an asterisk, were pre-occupied.

Descriptions of Fourteen new species of Schizostomæ, Anculosæ and Lithasiæ.

BY ISAAC LEA.

It will be observed that I have in this paper adopted my first name (*Schizostoma*) for the division of those *Melanidæ* which have a cut or fissure in the upper portion of the last whorl. This name I proposed in December, 1842. Subsequently finding that it was used by Bronn in 1835 I abandoned it, and proposed the name of *Schizochilus* as a substitute, (Obs. on the Genus Unio, v. 5, p. 51, 1852.) I am now satisfied that Bronn's name was applied to the same genus—*Euomphalus*—which Sowerby established in 1814, (Min. Conch. tab. 45.) This evidently liberates my original name, and Herrmannsen, in the Appendix to his "Generum Malacozorum," very properly restores it. It was supposed that this was the *Melatoma* of Swainson, and Mr. Anthony adopted this name. But it is evident that Mr. Swainson's *Melatoma* is not my *Schizostoma*. By reference to his figure (Malacology, p. 342, f. 104) it will be observed at once that there has never been observed in the United States any of the group of which that figure is the type, while it is known that they exist in the islands of the Indian Ocean. Mr. Swainson says (p. 202) that his *Melatoma* was "founded upon a remarkable Ohio shell" sent by Rafinesque. Now, as no member of the family *Melanidæ* with a cut in the lip has ever been found in the Ohio, where such hosts of active collectors have since pursued their investigations, it is perhaps beyond the bounds of possibility that the specimen sent by Rafinesque, so eminently careless and reckless as he always was, should ever have been found there. Indeed, if the specimen figured was sent by Mr. Rafinesque to Mr. Swainson, then the question would arise whether it had not been obtained by Mr. R. from some dealer or collector, who may have obtained it from Asia. I have no doubt of the *Melatoma costata*, which Mr. Swainson has figured, being exotic, and belonging to a group probably from the Philippine Islands. Mr. Anthony says, page 64, Proc. A. N. S. 1860, that "it may be doubted whether Mr. Lea's first name will not eventually prevail, since, before he published *Schizostoma*, Bronn's genus of the same name had been called a synonym of *Bifrontia*, Desh." And that "H. and A. Adams (Gen. Rec. Moll. 1, 105) do not appear correct in giving preference to *Gyrotoma* over *Schizostoma*, Lea," &c. Notwithstanding this, Mr. Anthony in this paper, where he describes nine supposed new species of this genus, adopts the generic name of *Gyrotoma*. It may be added here that Dr. Gray, in his *Genera of Recent Mollusca*, gives *Melatoma* to Mr. Anthony, not to Swainson, while he does not notice the name of *Schizostoma*. Mr. A. does not pretend to claim it, of course, but adopts *Gyrotoma*, Mr. Shuttleworth's name, proposed in 1845, which being three years later cannot have precedence.

The genus *Schizostoma* seems to be capable of being divided into two natural groups in the form of the *fissura*, the cut in the lip. In one group this fissura is deep and direct, that is parallel with the suture or upper edge of the whorl; in the other it is not deep and is oblique to the suture.

In Mr. Anthony's paper (Proc. Acad. Nat. Sci. Feb., 1860) I recognize several of my old species. His *Gyrotoma demissa* I believe to be my *Schizostoma constricta*. His *G. quadrata* to be my *S. incisa*.

SCHIZOSTOMA CASTANEA.—Testâ carinatâ, conicâ, subcrassâ, tenebroso-fuscâ, imperforatâ; spirâ elevatâ; suturis valdè impressis; anfractibus senis, planulatis, unicarinatis, quadrivittatis; fissurâ rectâ, angustâ profundâque; aperturâ parviusculâ, ellipticâ, intus vittatâ, ad basim subrotundatâ; columellâ albâ, incrassatâ; labro acuto, vix sinuato.

Hab.—Coosa River, Alab. E. R. Showalter, M. D.

SCHIZOSTOMA GLANS.—Testâ lævi, ovato-conicâ, inflatâ, subcrassâ, luteo-corneâ, striatâ, imperforatâ; spirâ obtusè elevatâ; suturis regulariter impressis; anfractibus senis, obsoletè vittatis, ultimo subgrandi; fissurâ rectâ, angustâ

profundâque; aperturâ parviusculâ, ellipticâ, intus albidâ, ad basim obtusè angulatâ; columellâ albidâ, supernè incrassatâ; labro-acuto, subsinuato.
Hab.—Coosa River, Alab. E. R. Showalter, M. D.

Schizostoma globosa.—Testâ transversè striatâ, globosâ, subtenui, luteola, imperforatâ; spirâ curtâ, obtusè conoideâ; suturis impressis; anfractibus quaternis, trivittatis, ultimo grandi; fissurâ rectâ, angustâ brevique; aperturâ subgrandi, ellipticâ, intus vittatâ, ad basim angulatâ; columellâ albâ, incurvatâ; labro acuto, expanso.
Hab.—Alabama. E. R. Showalter, M. D.

Schizostoma virens.—Testâ subnodulosâ, curtâ, inflatâ, subcrassâ, tenebroso-viridi, exilissimè striatâ, imperforatâ; spirâ obtusâ; suturis impressis; anfractibus subplanulatis et trivittatis; fissurâ obliquâ brevique; aperturâ elongatâ, subpyriformi, intus tenebroso-vittatâ; columellâ supernè purpuratâ et incrassatâ; labro acuto, sinuato.
Hab.—Coosa River, Alab. E. R. Showalter, M. D.

Schizostoma glandula.—Testâ lævi, curtâ, inflatâ, subcrassâ, luteo-corneâ, exilissimè striatâ, imperforatâ; spirâ obtusâ; suturis valdè impressis; anfractibus senis, vittatis, ultimo magno et tumido; fissurâ obliquâ brevique; aperturâ subgrandi, ellipticâ, intus albidâ; columellâ albidâ, supernè incrassatâ; labro acuto, subsinuato.
Hab.—Coosa River, Alab. E. R. Showalter, M. D.

Schizostoma Wetumpkaensis.—Testâ striatâ, ovato-cylindraceâ, crassâ, pallido-fuscâ, perforatâ; spirâ obtusâ, conoideâ; suturis valdè impressis; anfractibus senis, vittatis, planulatis, ultimo grandi; fissurâ obliquâ brevique; aperturâ grandi, ovatâ, intus vittatâ, ad basim obtusè angulatâ; columellâ albâ, supernè incrassatâ; labro acuto, sinuato.
Hab.—Coosa River, at Wetumpka, Alabama. E. R. Showalter, M. D.

Schizostoma Alabamensis.—Testâ striatâ, ellipticâ, robustâ, luteo-olivaceâ, imperforatâ, spirâ obtuso-conoideâ; suturis valdè impressis; anfractibus senis, vittatis, subinflatis, ultimo pergrandi; fissurâ obliquâ subbrevique; aperturâ subgrandi, ovatâ, intus vittatâ, ad basim rotundatâ; columellâ albâ, infernè et supernè paulisper incrassatâ; labro acuto, sinuato.
Hab.—Alabama. B. W. Budd, M. D., and E. R. Showalter, M. D.

Schizostoma Hartmanii.—Testâ lævi, subcylindraceâ, crassâ, luteo-corneâ, imperforatâ; spirâ elevatâ; suturis valdè impressis; anfractibus planulatis, ultimo subgrandi; fissurâ rectâ subbrevique; aperturâ parviusculâ, ovatâ, intus albâ, ad basim obtusè angulatâ; columellâ albâ, incurvâ, infernè paulisper incrassatâ; labro acuto, sinuato.
Hab.—Coosa River, Alab. W. D. Hartman, M. D.

Schizostoma pumila.—Testâ striatâ, turbonatâ, subtenui, pallido-corneâ, imperforatâ; spirâ valdè obtusâ; suturis valdè impressis; anfractibus senis, ventricosis, ultimo permagno; fissurâ rectâ subbrevique; aperturâ parviusculâ, ovatâ, intus albâ, ad basim angulatâ et subcanaliculatâ; columellâ albâ, contortâ, infernè incrassatâ; labro acuto, sinuato.
Hab.—Alabama. B. W. Budd, M. D.

Anculosa formosa.—Testâ lævi, globosâ, subtenui, diaphanâ, vel luteolâ vel crocatâ, valdè vittatâ et maculatâ; spirâ depressâ vix conspicuâ; suturis impressis; anfractibus ternis, ultimo magno et valdè ventricoso; aperturâ grandi, subrotundâ, intus pallido-crocatâ et tenebroso-vittatâ; columellâ infernè et supernè incrassatâ et pallido-purpuratâ; labro acuto et valdè expanso.
Hab.—Coosa River, Shelby Co., Alabama. E. R. Showalter, M. D.

Anculosa contorta.—Testâ lævi, globoso-ovoideâ, crassâ, luteo-corneâ; spirâ elevatâ; suturis valdè impressis; anfractibus inflatis, obsoletè transversè

striatis; aperturâ parvâ, subrotundâ, contractâ, intus luteo-albâ; columellâ incrassatâ; labro acuto, expanso.

Hab.—Coosa River, at Watumpka, Alab. E. R. Showalter, M. D.

ANCULOSA VITTATA.—Testâ lævi, subglobosâ, crassâ, luteolâ, valdè vittatâ; spirâ obtusâ; suturis impressis; anfractibus quarternis, inflatis, ultimo magno et ventricoso; aperturâ rotundâ, in faucibus valdè constrictâ, intus vittatâ; columellâ valdè incrassatâ, planulatâ, purpuratâ; labro acuto, expanso.

Hab.—Coosa River, at Watumpka, Alabama. E. R. Showalter, M. D.

LITHASIA SHOWALTERII.—Testâ lævi, ovato-cylindraceâ, subcrassâ, luteo-corneâ, vittatâ; spirâ obtusè conoideâ; suturis valdè impressis, anfractibus senis, ultimo magno et planulato: aperturâ grandi, subovatâ, elongatâ, intus albidâ, tenebroso-vittatâ, ad basim obtusè angulatâ; columellâ infernè et supernè incrassatâ, incurvâ; labro acuto et subconstricto.

Hab.—Coosa River, at Watumpka, Alabama. E. R. Showalter, M. D.

LITHASIA NUCLEA.—Testâ lævi, ellipticâ, luteo-olivâ, crassâ, solidâ, trivittatâ; spirâ obtusè conoideâ; suturis impressis; anfractibus quinis, ultimo magno et paulisper inflato; aperturâ parviusculâ, ovato-rotundâ, intus albidâ, trivittatâ, ad basim recurvatâ; columellâ infernè et supernè incrassatâ, incurvâ; labro acuto.

Hab.—Coosa River, Alabama. E. R. Showalter, M. D.

Catalogue of Birds collected during a survey of a route for a ship Canal across the Isthmus of Darien, by order of the Government of the United States, made by Lieut. N. Michler, of the U. S. Topographical Engineers, with notes and descriptions of new species.

BY JOHN CASSIN.

(Continued from page 144.)

84. THAMNOPHILUS ATRICAPILLUS, (Gmelin).
Lanius atricapillus, Gm. Syst. Nat. i. p. 303, (1788).
Lanius pileatus, Lath. Ind. Orn. i. p. 76, (1790).
Vieill. Ois. D'Am. Sept. pl. 48, 49. Buff. Pl. Enl. 479, fig. 2.
From Carthagena.

"On the Popa mountain at Carthagena, constantly flying across the pathway, and was evidently catching small *Lepidoptera* and *Diptera*. Has a prolonged note somewhat like one note of the Cat bird of the United States. Very shy, and not easily obtained, though abundant." (Mr. W. S. Wood, Jr.)

85. THAMNOPHILUS NAEVIUS, (Gmelin).
Lanius naevius, Gm. Syst. Nat. i. p. 308, (1788).
Leach, Zool. Misc. i. pl. 17. Sw. B. of Braz. pl. 59.
From the River Truando.

"Frequently seen, and generally on the ground, in patches of a plant called "Spanish Bayonet," by the people of the country, on which it seemed to be catching insects. At Camp Toucey, in January, 1858." (Mr. W. S. Wood, Jr.)

86. THAMNOPHILUS TRANSANDEUS, Sclater.
Thamnophilus transandeus, Sclat. Proc. Zool. Soc. Lond. 1855. p. 18.
From Turbo.

Appears to be this species, having the under tail coverts tipped with white, and is rather larger than specimens of *T. melanurus*, in the Acad. Coll. Very nearly allied, though, to that species.

"In very thick bushes on the banks of a creek near Turbo, seen only once, and very shy. Has a harsh loud note, and appeared to be pursuing large insects, occasionally alighting on the ground." (Mr. W. S. Wood, Jr.)

87. THAMNOPHILUS.

From Turbo.

Two specimens labelled as females, nearly allied to *T. caesius*, (Cuv). and *T. æthiops*, Sclater.

88. THAMNOPHILUS,

From the River Truando.

Several specimens, all in young plumage, probably of a species allied to *T. atricapillus.*

" All of the preceding five species live in the bushes, and are often to be seen on the ground, and appear to subsist by capturing insects in various stages, which are exceedingly abundant. All of them are more or less noisy, having harsh, though not always disagreeable notes, which can constantly be heard where they frequent. When alarmed, they take long flights very precipitately, and are not easily collected." (Mr. W. S. Wood, Jr.)

89. PACHYRHAMPHUS RUFESCENS, (Spix) ?

From Turbo. A single specimen in young plumage.

" On the Cremantina, a high tree with very abundant foliage. Has much the habits of a Fly-catcher, darting out in pursuit of insects, and returning to its perch, and moving his tail in the same manner." (Mr. W. S. Wood, Jr.)

Genus PITTASOMA, nobis.

General aspect of *Conopophaga*, Vieillot, but larger, and bearing about the same relation to that genus as *Grallaria*, Vieillot, does to *Grallaricula*, Sclater. Also resembling *Pitta*, Vieillot, but differing from all the genera here mentioned, except *Conopophaga*, in having the bill wide and *depressed*, not *compressed.*

Form robust, wings short, concave, rounded, fifth, sixth and seventh quills longest; tail very short; bill strong, wide at base and narrowing gradually, depressed, upper mandible notched near the tip, and with the culmen distinct, a few rudimentary bristles at base; nostrils oval, inserted in a large membrane; legs long, very strong, tarsus with about five large scales in front, which become nearly integral on the outside, and quite so behind; toes moderate; claws curved, sharp.

90. PITTASOMA MICHLERI, nobis.

♂ Head above black, the shafts of the feathers lustrous, large space on the cheek, extending completely around the neck behind, bright chestnut, throat black, many of the feathers tipped with white, and with chestnut, lores white; back reddish olive, many feathers edged with black on each side; rump, upper tail coverts and wing coverts greenish rufous, the last (wing coverts) with small terminal spots of white, which spots are edged and nearly enclosed with black; under parts white, every feather having two or three rather wide, transverse, waved or crescent-shaped bands of deep black; abdomen and under tail coverts, tinged with ferruginous, but transversely striped with black, same as other under parts of body; under wing coverts, dull greenish brown, striped and spotted with white and black; quills greenish rufous, some of the shorter quills having sub-terminal spots of light rufous, edged with black; tail greenish rufous; upper mandible dark bluish horn color, lighter towards the tip; under mandible yellow, legs light horn color.

Total length from tip of bill to end of tail, about 7 inches, wing $3\frac{3}{4}$, tail $1\frac{3}{8}$, bill from gape $1\frac{3}{8}$, tarsus $1\frac{7}{8}$ inches.

Hab. River Truando, New Grenada. Discovered by Mr. William S. Wood, Jr. and Mr. Charles J. Wood. (Panama, Mr. J. McLeannan). Spec. in Nat. Mus. Washington.

This is the most remarkable bird in the collection of the expedition, and is one of the most handsome of the Ant Thrushes, if indeed to that group it and the genus *Conopophaga* belong. Though with the general form and appearance of *Pitta* and *Grallaria*, this bird differs from them in having a very strong *depressed* and rather wide bill, not *compressed* as in those genera. In this respect, and other structural characters, it approximates to *Conopophaga*, and also in having more variegated and agreeable colors than in *Grallaria*. This bird is in fact, the most handsome bird of its group yet discovered in America. The only specimen in the collection of the expedition is labelled as a male.

Another and very fine specimen of this bird, kindly loaned to me by Mr. Lawrence, of New York, belongs to the collection of J. McLeannan, Esq., of that city, and was obtained by him on the Isthmus of Panama.

" On the river Truando. January 22d, 1858, above its junction with the Atrato, but before reaching the Cordilleras. In the woody places running on the ground very swiftly, and scratching among the leaves, not common." (Mr. C. J. Wood).

This handsome bird I have named in honor of the commanding officer of the expedition, Lieut. N. Michler, of the U. S. Topographical Engineers, under whose direction, and with whose judicious advice and assistance, the present interesting collection was made, as stated in the preliminary note to this paper.

91. FORMICIVORA GRISEA, (Boddært).
Turdus griseus, Bodd. Tab. Pl. Enl. p. 39, (1783).
Formicivora nigricollis, Swains. Zool. Jour. ii. p. 147.
Spix. Av. Bras. ii. pl. 41. Buff. Pl. Enl. 643.

From Carthagena.

" On the 'Popa' mountain, at Carthagena. Very abundant in the bushes, but very quick in motion, and shy, flying off on slight noise or alarm. November, 1857." (Mr. W. S. Wood, Jr.)

92. FORMICIVORA QUIXENSIS, (Cornalia).
" Thamnophilus quixensis, et rufiventris, Corn. Sclater."
" Myiothera perlata." Label in Mus. Acad. Philadelphia.

From the river Truando.

Both sexes, much as given in the descriptions above cited and labelled by the collectors as male and female of the same species.

" Abundant at the camp in the Cordilleras, on the Rio Truando. In the high trees, actively capturing insects, and never observed descending to the bushes. The two plumages labelled as male and female, were constantly seen together, and were thought by my brother and myself to be the same bird." (Mr. W. S. Wood, Jr.)

93. HYPOCNEMIS NÆVIOIDES, (Lafresnaye).
Conopophaga nævioides, Lafr. Rev. Zool. 1847, p. 69.

From the falls of the Truando.

" At camp Floyd, on the south side of the river Truando, before reaching the first range of the Cordilleras. Running on the ground amongst bushes, and always in damp or marshy places, much resembling in its actions the Water Thrush of the United States, (*Seiurus noveboracensis*). Frequently seen in January and February, 1858." (Mr. W. S. Wood, Jr).

94. MYRMOTHERULA PYGMÆA, (Gmelin).
Muscicapa pygmæa, Gm. Syst. Nat. i. p. 983, (1788).
Buff. Pl. Enl. 831.

From the river Truando.

" Abundant on the 'Cremantina' trees, especially at Camp Toucey, in January, 1853. Frequently seen also in the Plaintains or Bananas, constantly searching for insects amongst the fruit and leaves." (Mr. W. S. Wood, Jr.)

95. MYRMOTHERULA SURINAMENSIS, (Gmelin).
Sitta surinamensis, Gm. Syst. Nat. i. p. 442, (1788).
Lath. Gen. Hist. iv. pl. 62. Proc. Zool. Soc. London, 1858, pl. 141.

From Turbo.

" Frequently seen in the trees at Turbo, and the male was at first supposed by my brother and myself, to be the black and white creeper of the United States, (*Mniotilta varia*). It has habits exactly like those of that bird, running along the upper or lower sides of the branches frequently with its head downwards. In April, 1858." (Mr. W. S. Wood, Jr.)

96. MYRMOTHERULA MELAENA, (Sclater).

Formicivora melaena, Sclat. Proc. Zool. Soc. London, 1857, p. 130.

From the river Truando.

"At Camp Toucey on the Truando, before reaching the Cordilleras. In the bushes, and very active in pursuit of insects. Has a short, rather loud note, often repeated, rendering pursuit very easy; solitary, but frequently seen." (Mr. W. S. Wood, Jr.)

97. MYRMOTHERULA ORNATA, (Sclater)?

Formicivora ornata, Sclat. Rev. et Mag. Zool. 1853, p. 480?

From the river Truando.

Several specimens, apparently immature, and not easily to be referred to either *M. gularis* or its allies, but unmistakeably of that ilk.

"At Camp Toucey, on the Truando, and previously at Turbo. Seen in the high trees and also occasionally in the bushes, very active, and constantly in motion." (Mr. W. S. Wood, Jr.)

98. MYRMECIZA EXSUL, Sclater.

Myrmeciza exsul, Sclat. Proc. Zool. Soc. London, 1858, p. 540.

From Turbo.

One specimen only, labelled as a male and very nearly as described by Mr. Sclater as above cited.

99. MYRMECIZA EXSUL, Sclater?

Very similar to the preceding, and probably the same species, but with the entire under parts reddish chestnut brown, nearly uniform with the upper parts, throat only ashy black.

From Turbo.

"These two birds were considered to be the same species by my brother and myself, notwithstanding the difference in the color of the under parts. We met with this species in the thick and dry parts of the forest at Turbo, rather plenty, but not easily shot on account of their running on the ground very swiftly, and concealing themselves amongst the leaves. It utters loud, rather musical notes, somewhat similar to those of the Golden-crowned Thrush, (*Seiurus*) of the United States." (Mr. W. S. Wood, Jr.)

100. PIPRA AURICAPILLA, (Brisson).

Manacus auricapillus, Briss. Orn. iv. p. 448, (1760).

Desm. Manak. pl. 60. Hahn & Küster, Orn. Atlas, pl. 92.

From Turbo.

101. PTILOCHLORIS RUFO-OLIVACEUS, Lafresnaye.

Ptilochloris rufo-olivaceus, Lafres. Rev. Zool. 1838, p. 238.

From the Truando.

"At camp Toucey. On the ground, seen once only." (Mr. W. S. Wood, Jr.)

102. SEIURUS NOVEBORACENSIS, (Gmelin).

Motacilla noveboracensis, Gm. Syst. Nat. i. p. 958, (1788).

Aud. B. of Am. pl. 433. Oct. ed. iii. pl. 149.

From Carthagena.

"Seen once only, in a small stream of water on the 'Popa' mountain, in November, 1857." (Mr. W. S. Wood, Jr.)

103. DENDROICA ÆSTIVA, (Gmelin).

Motacilla æstiva, Gm. Syst. Nat. i. p. 996, (1788).

Sylvia citrinella, Wilson, Am. Orn. ii. p. 111, (1810).

Wilson, Am. Orn. ii. pl. 15. Aud. B. of Am. pl. 95. Oct. ed. ii. pl. 88.

From Turbo.

"Seen for a few days at Turbo, early in April, 1858." (Mr. W. S. Wood, Jr.)

104. Dendroica Vieilloti, nobis.

Sylvia ruficapila, Vieill. Nouv. Dict. xi. p. 228, (but not of same vol. p. 179, and not *Sylvia ruficapilla*, Lath. Ind. Orn. ii. p. 540, which is *Motacilla petechia*, Linnæus, a distinct species).

"Chloris erithrachorides, Feuille," Baird, Rept. Pac. R. R. Surv. ix. p. 283, hence *Dendroica erithachorides*, Baird, same vol. p. 283, (but not Chloris erithrachorides, Feuille, Jour. Obs. Phys. iii. p. 413, (1725), which is *Motacilla petechia*, Linnæus).

Entire head and neck in front light reddish chestnut. Plumage of all other parts much resembling that of *D. æstiva*, of the United States, but darker on the back, wings and tail, size rather larger, and with the bill slightly longer and more gradually pointed. Total length, 4½ to 4¾ inches.

Hab.—South America, Central America. (Panama, Mr. J. G. Bell).

From Carthagena.

I have been quite unsuccessful in attempting to find a name really applicable to this well marked and not uncommon species. It is usually, I believe, regarded as *Sylvia ruficapilla* of authors, and is unmistakeably described by Vieillot, as above cited, but erroneously so far as relates to the name, which is applied by all other authors to *Motacilla petechia*, Linnæus, a species not uncommon from the West Indies, and accurately figured by Vieillot, Ois d'Am. Sept. pl. 91. Under these circumstances I propose the name above given.*

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*There are at least five species of *Dendroica*, resembling each other, and all having the general appearance of *D. æstiva* of the United States. The first four of these have been much confused and mistaken for each other:

1. Dendroica æstiva, (Gmelin.)
Motacilla æstiva, Gm. Syst. Nat. ii. p. 996, (1788).
Hab. United States, Mexico, Central America, New Grenada, West Indies?

2. Dendroica albicollis, (Gmelin).
Motacilla albicollis, Gm. Syst. Nat. ii. p. 983, (1788),
Hab. Cuba, (Gundlach), St. Domingo, (Brisson).

This is the bird usually regarded as *D. æstiva*, by the Cuban ornithologists, but is a distinct species as I suspected long before examining authentic specimens. The habits of this bird, as given by those very accurate naturalists, are different from those of the common bird of the United States. Brisson (Orn. iii. p. 494) carefully describes the present species, though his specimens do not appear to have been mature. The young bird only has the throat and neck in front nearly pure white.

2. Dendroica petechia, (Linnæus).
Motacilla petechia, Linn. Syst. Nat. i. p. 334, (1776).
Motacilla ruficapilla, Gm. Syst. Nat. ii. p. 971, (1788).
Hab. West Indies, Central America? Jamaica? Martinique (Brisson).

I have frequently seen specimens precisely in the plumage as figured by Vieillot, as above cited, and by Edwards, Birds v. pl. 256, fig. 2, but I am not confident of the exact locality. This is very probably the *Sylvicola æstiva*, of Gosse, B. of Jamaica, p. 157, and probably of Messrs. Newton, B. of St. Croix, in Sclater's Ibis, 1859, p. 153. This bird is also very carefully described by Brisson, (Orn. iii. p. 490), in mature plumage, with the top of head, clear, well defined rufous.

4. Dendroica Vieilloti, Cassin, *ut supra*.
Sylvia ruficapilla, Vieill. Nouv. Dict. xi. p. 228.
Hab. South America and Central America, New Grenada, (W. S. Wood, Jr.) Panama, (J. G. Bell).

5. Dendroica aureola, (Gould).
Sylvicola aureola, Gould, Voy. Beagle, Birds, p. 86, (1841).
Hab. Galapagos Islands, (Gould).

Very similar to *D. petechia*, as above. This species, or at least specimens from the Galapagos Islands, I have not seen. Of all the others several specimens of each are now before me, and I have not the smallest doubt of their specific distinctness, which I hope to fully demonstrate in a subsequent paper. Having called the attention of my friend Mr. Lawrence, of New York, to the distinctness of the Cuban species, his views will probably appear in his notes on Birds of Cnba, about to be published in the Annals of the Lyceum, New York.

"Frequently seen on the 'Popa' mountain at Carthagena, in November, 1857. Very active and constantly moving in the lower trees and bushes." (Mr. W. S. Wood, Jr.)

105. DENDROICA CASTANEA, (Wilson).

Sylvia castanea, Wilson, Am. Orn. ii. p. 97, (1810).

Wilson, Am. Orn. ii. pl. 14. Aud. B. of Am. pl. 69, Oct. ed. ii. pl. 80.

From Turbo and the River Truando.

"On the Truando, in January, and at Turbo early in April, 1858. In small flocks of ten or twelve, in the high trees, very much as in autumn in the United States." (Mr. W. S. Wood, Jr.)

106. THRYOTHORUS NIGRICAPILLUS, Sclater.

Thryothorus nigricapillus, Sclater, Proc. Zool. Soc. London, 1860, p. 84.

From the River Truando.

Two specimens appear to be this species, or at least very closely allied. They differ only in having the throat transversely banded with black lines, same as on other parts.

"In low bushes and on the ground, on the banks of the Rio Truando, in the Cordilleras. Frequently seen, and runs on the ground, more than usual in the larger Wrens of the United States, but has similar general habits." (Mr. W. S. Wood, Jr.)

107. THRYOTHORUS.

A large plain colored species, for which I have found no name, but am not sufficiently acquainted with the group of *Troglodytinæ* to feel warranted in proposing a species. Several specimens from Turbo and Carthagena.

108. SCLERURUS BRUNNEUS, Sclater.

Sclerurus brunneus, Sclat. Proc. Zool. Soc. London, 1857, p. 17.

From the river Ingador.

One specimen only in the collection of the Expedition appears to be this species. "On the banks of a small stream called the Ingador, near the coast of the Pacific Ocean. In the Palm trees, clinging to the leaves and searching for insects. March, 1858." (Mr. W. S. Wood, Jr.)

109. SYNALLAXIS CANDEI, D'Orb. et Lafres.

Synallaxis Candei, D'Orb. et Lafres. Rev. Zool. 1838, p. 165.

From Carthagena.

110. XENOPS RUFICAUDA, (Vieillot).

Synallaxis ruficauda, Vieil. Nouv. Dict. xxxii. p. 310, (1818).

Temm. Pl. Col. 150.

From Turbo.

111. DENDRORNIS TRIANGULARIS, (Lafresnaye).

Dendrocalaptes triangularis, Lafr. Mag. Zool. 1843.

Guerin, Mag. Zool. 1843, pl. 32.

From the river Truando.

"These kinds of birds were very abundant on the trees in the Cordilleras, and a few were seen at camp Toucey, on the Rio Truando, within 20 or 30 miles of the mountains. They run on the trunks and branches very rapidly, and appear to be very greedy and rapacious. Not shy, and easily approached, but not easily shot, on account of their quick movements. When they have ascended a tree, they fly down to the base of another, like the Brown Creeper of the United States, (*Certhia*)." (Mr. W. S. Wood, Jr.)

112. DENDRORNIS GUTTATUS, (Lichtenstein).

Dendrocolaptes guttatus, Licht.Verz. p. 16, (1823).

Le Vaill. Prom. pl. 30.

From the river Truando.

113. **Dendrornis.**

One specimen from the river Truando, with large elongated spots for which I have not succeeded in finding a name.

114. **Malacoptila ?**

From the river Truando.

A single specimen in immature plumage, referable to no species with which I am acquainted.

115. **Certhiola luteola,** Cabanis.

Certhiola luteola, Cab.

From Turbo and Carthagena.

116. **Juliamyia Juliæ,** (Bourcier).

Juliamyia typica, Bonap. Rev. Zool. 1854, p. 255.
Ornismyia Juliæ, Bourc. Ann. Soc. Lyons, 1842, p. 345.
Gould, Monog. pt. xviii. pl. (not numbered).

From Turbo.

" Seen occasionally in April, 1858, but not very common. Flies very swiftly, and is shy, darting away on the least alarm." (Mr. W. S. Wood, Jr.)

117. **Chrysolampis moschitus,** (Linnæus.)

Trochilus moschitus, Linn. Syst. Nat. i. p. 192, (1766).
Gould, Monog. pt. xii. pl.

From Carthagena.

" About an old fort in the 'Popa' mountain, which was completely overgrown with vines and flowering plants, this humming bird and others were exceedingly abundant. Constantly flying and fighting with each other, and nowhere seen so abundant as here, in the month of November, 1857." (Mr. W. S. Wood, Jr.)

118. **Lampornis mango,** (Linnæus).

Trochilus mango, Linn. Syst. Nat. i. p. 191, (1766).
Gould, Monog. pt. xii. pl.

From Carthagena.

Appears to be the true *mango* of authors.

119. **Eucephala cærulea,** (Vieillot).

Trochilus cæruleus, Vieill. Nouv. Dict. vii. p. 361. (1817).
Gould, Monog. pt. xiv. pl.

From Carthagena.

120. **Ionolaima.**

From Turbo.

One specimen only, in bad condition and immature plumage, appears to be of this genus.

121. **Phaethornis yaruqui,** (Bourcier).

Trochilus yaruqui, Bourc. Compt. Rend. xxxii. p. 187.
Gould, Monog. pt. iv. pl.

From the River Truando.

" Plain plumaged humming birds were frequently seen in the Cordilleras, but never very abundant. We rarely saw the brighter colored in the mountains. Generally about the vines and shrubbery." (Mr. W. S. Wood, Jr.)

122. **Phaethornis.**

From Turbo.

A single specimen, in immature plumage, of a small species.

123. **Chloraenas rufina,** (Temminck).

Columba rufina, Temm. Pig. et Gall. i. p. 467, (1813).
Knip, Pigeons i. pl. 24.

From Turbo and the Delta of the River Atrato.

"Seen once only at Turbo in a small flock, sitting in a high tree, and once only at the mouth of the Atrato; seemed to be a stranger. Early in January, 1858." (Mr. W. S. Wood, Jr.)

124. LEPTOPTILA VERREAUXII, (Bonaparte).
Leptoptila Verreauxi, Bonap. Consp. Av. ii. p. 73, (1854).
From Turbo and the River Truando.

"In a secluded part of the forest at Turbo, in the trees, and afterwards on the Truando." (Mr. W. S. Wood, Jr.)

125. CHAMAEPELIA GRANATINA, Bonaparte.
Chamaepelia granatina, Bonap. Consp. Av. ii. p. 77, (1854).
From Carthagena.

"Abundant and in large flocks among the bushes on the shores of the sea at Carthagena, in November, 1857. Seemed to be searching for food in the sand and short grass, and not very easily approached, flying away very rapidly, and frequently alighting on trees." (Mr. W. S. Wood, Jr.)

126. TINAMUS MAJOR, (Gmelin).
Tetrao major, Gm., Syst. Nat. i. p. 767, (1788).
Pezus serratus, Spix, Av. Bras. ii, p. 61, (1825).
Buff. Pl. Enl. 476. Spix. Av. Bras. ii. pl. 76.
From the River Truando.

One specimen only, labelled as a female, which appears to be identical with specimens from Brazil.

"Frequently heard on the Truando, near the first range of the Cordilleras. It has a very loud, continued note, not inappropriately compared by the members of our party to the whistle of a locomotive engine. Not easily seen, being exceedingly shy and running very rapidly." (Mr. W. S. Wood, Jr.)

127. SQUATAROLA HELVETICA, (Linnæus).
Tringa helvetica, Linn. Syst. Nat. i. p. 250, (1766).
Charadrius apricarius, Wilson, Am. Orn. vii. p. 41, (1813).
Wilson, Am. Orn. vii. pl. 57. Aud. B. of Am. pl. 334. Oct. Ed. v. pl. 315.
From Carthagena.

128. SYMPHEMIA SEMIPALMATA, (Gmelin).
Scolopax semipalmatus. Gm. Syst. Nat. i. p. 659, (1788).
Wilson, Am. Orn. vii. pl. 56. Aud. B. of Am. pl. 274. Oct. Ed. v. pl. 347.
From Carthagena.

129. GAMBETTA MELANOLEUCA, (Gmelin).
Scolopax melanoleucus, Gm. Syst. Nat. i. p. 659, (1788).
Scolopax vociferus, Wilson.
Wilson, Am. Orn. vii. pl. 58. Aud. B. of Am. pl. 308. Oct. ed. v. pl. 345.
From Carthagena.

130. GAMBETTA FLAVIPES, (Gmelin).
Scolopax flavipes, Gm. Syst. Nat. i. p. 659, (1788).
Wilson, Am. Orn. vii. pl. 58. Aud. B. of Am. pl. 228. Oct. ed. v. pl. 344.
From Carthagena.

131. CALIDRIS ARENARIA, (Linnæus).
Tringa arenaria, Linn. Syst. Nat. i. p. 251, (1766).
Calidris americana, Brehm.
Wilson Am. Orn. vii. pl. 59, 63. Aud. B. of Am. pl. 230. Oct. ed. v. pl. 338.
From Carthagena.

132. EREUNETES PUSILLA, (Linnæus).
Tringa pusilla, Linn. Syst. Nat. i. p. 252, (1766).
Tringa semipalmata, Wilson.
Ereunetes petrifactus, Illiger.

Wilson Am. Orn. vii. pl. 63. Aud. B. of Am. pl. 408. Oct. ed. v. pl. 336.
From Carthagena.
This is, I have no doubt, the true *Tringa pusilla* of Linnæus.

133. TRINGA WILSONII, Nuttall.
Tringa Wilsonii, Nutt. Man. ii. p. 121, (1834).
Tringa pusilla, Wilson.
Wilson, Am. Orn. v. pl. 37. Aud. B. of Am. pl. 320. Oct. ed. v. pl. 337.
From Carthagena.

"The preceding seven species, and in fact nearly all the small wading birds that we had been accustomed to seeing on the coast of New Jersey, were very abundant on the sea coast at Carthagena, in November, 1857. The most abundant were perhaps the two small Sandpipers (*E. pusilla* and *T. Wilsonii*), and the yellow Shanks (*G. flavipes*). Though easily shot, they were not so easily obtained, on account of the marshy or boggy character of many localities which they particularly frequented. All of these species were in flocks, as seen on the coast of the United States in Autumn." (Mr. W. S. Wood, Jr.)

134. PARRA HYPOMELAENA, G. R. Gray.
Parra hypomelaena, Gray, Gen. iii. p. 589, (1846).
Gray. Gen. iii. pl. 159.
Atrato River.

"In open places which are very marshy on the River Atrato, late in December, 1857. Two or three together, generally on the ground, frequently stretching out their wings, and often wading in the water. Quite shy and watchful." (Mr. W. S. Wood, Jr.)

135. ARAMIDES CAYENNENSIS, (Gmelin).
Fulica cayennensis, Gm. Syst. Nat. i. p. 700, (1788).
Buff. Pl. Enl. 352.
From Turbo.

"In a salt water marsh at Turbo; seen once only." (Mr. Wm. S. Wood, Jr.)

136. ARDEA HERODIAS, Linnæus.
Ardea Herodias, Linn. Syst. Nat. i. p. 237, (1766).
Wilson, Am. Orn. viii. pl. 65. Aud. B. of Am. pl. 211. Oct. ed. vi. pl. 369.
From the delta of the Atrato.

"Frequently seen about the mouth of the Atrato, in December." (Mr. W. S. Wood, Jr.)

137. BUTORIDES GRISEA, (Boddært).
Cancroma grisea, Bodd. Tab. Pl. Enl. p. 54, (1783).
Ardea scapularis, Illiger.
Buff. Pl. Enl. 908.
From Carthagena.

138. GARZETTA CANDIDISSIMA, (Gmelin).
Ardea candidissima, Gm. Syst. Nat. i. p. 633, (1788).
Wilson, Am. Orn. vii. pl. 62. Aud. B. of Am. pl. 242. Oct. ed. vi. pl. 374.
From Carthagena and the River Atrato.

"Abundant on the Rio Atrato, in February, 1858. Generally seen sitting on the low trees on the edge of the river." (Mr. W. S Wood, Jr.)

139. TIGRISOMA BRASILIENSE, (Linnæus).
Ardea brasiliensis, Linn. Syst. Nat. i. p. 239, (1766).
Buff. Pl. Enl. 860.
From the delta of the Atrato.

140. TIGRISOMA TIGRINUM, (Gmelin)?
Ardea tigrina, Gm. Syst. Nat. ii. p. 638, (1788).
From the delta of the Atrato.

141. Harpiprion cayennensis, (Gmelin).
Tantalus cayennensis, Gm. Syst. Nat. i. p. 652, (1788).
Buffon. Pl. Enl. 820.
From the River Nercua.
"In the mountains, before reaching the main ridge on the Rio Nercua." (Mr. W. S. Wood, Jr.)

142. Dendrocygna autumnalis, (Linnæus.)
Anas autumnalis, Linn. Syst. Nat. i. p. 205, (1766).
Baird, B. of N. Am. pl. 63. Rept. Mex. Bound. Surv. Birds, pl. 25.
From the River Truando.

143. Carbo brasilianus, (Gmelin)?
Procellaria brasiliana, Gm. Syst. Nat. i. p. 564?
Gillis, Astr. Exp. Birds, pl. 28?
From the River Truando.
"On the Truando and Atrato, frequently seen in the water and also on trees. When perched, drop very suddenly into the water on being alarmed, and disappear by diving." (Mr. W. S. Wood, Jr.)

144. Plotus anhinga, Linnæus.
Plotus anhinga, Linn. Syst. Nat. i. p. 580, (1766).
Plotus melanogaster, Wilson.
Wilson, Am. Orn. ix. pl. 74. Aud. B. of Am. pl. 316, Oct. ed. vi. pl. 420.
From the Rivers Atrato and Truando.
Several specimens in immature plumage, but all apparently of this species.
"Abundant in the months of January, February and March, on all the rivers from the Gulf of Darien, on the Atlantic, to the coast of the Pacific." (Mr. W. S. Wood, Jr.)

Descriptions of some new species of Cretaceous Fossils from South America, in the Collection of the Academy.

BY W. M. GABB.

Eulima seminosa, pl. 3, fig. 6. Shell fusiform, spire elevated, whorls five, mouth small, shell thick and marked by irregular lines of growth.

From a greyish brown limestone from Chili, in connection with Trigonia Hanetiana *D'Orb.*, and many of the other species described by that author in the "Voyage de l'Astrolabe et Zélée."

Scalaria (Clathrus) Chiliense, pl, 3, fig. 4. Shell [scalariform, spire very elevated, whorls six or seven, rounded and marked by about fourteen prominent, longitudinal, rounded ribs. Mouth small, subcircular; a reflection of the inner lip covers the base of the body whorl so as to hide the lower part of some of the ribs.

Pugnellus tumidus, pl. 3, fig. 13 and 14. Shell heavy, scalariform, spire elevated, five whorls, which are angular at the upper part, and marked by a series of small nodes on the angle; body whorl large, mouth expanded, superior sinus very deep, outer lip very much thickened, especially the extreme outer portion or callosity, which is nearly as thick as long. The thickening of the superior and lateral edges of the outer lip, produces a deep fosset on the posterior portion of the body whorl, immediately behind the expansion of the lip; the inner lip is reflected over a portion of the spire; canal long and curved anteriorly.

This species is the one to which Mr. Conrad, in his note on the genus, refers as occurring in South America. There is another species, (P.) Strombus semicostatus *D'Orb.*, that occurs in the same deposit.

Pleurotoma D'Orbignyana, pl. 3, fig. 7. Shell scalariform, spire elevated, whorls five, body whorl angular above; shell marked by a series of small nodes on the shoulder of the whorls and by fine lines of growth.

P. arata, pl. 3, fig. 9. Shell scalariform, spire elevated, whorls three or four, subangular above and marked by a shallow, revolving groove immediately below the angle; surface marked by numerous revolving striæ, crossed by faint lines.

Patella Auca, pl. 3, fig. 11. Shell small, thin, circular; apex small, acuminate and very excentric; surface marked by irregular concentric undulations.

Cultellus Australis, pl. 3, fig. 8. Shell elongate, narrow, beaks very small, incurved, near the anterior end; posterior end gaping, and a little narrowed; anterior end rounded; surface marked by concentric striæ.

Mactra Chiliensis, pl. 3, fig. 5. Shell thin, equilateral, slightly convex; beaks small, incurved; umbones large, prominent; hinge teeth small; anterior end slightly subangular, posterior rounded; surface marked by distinct concentric lines.

M. Araucana, *D'Orb. sp.* var. pl. 3, fig. 12. This specimen differs a little from the one figured by D'Orbigny, in the Voyage de l'Astrolabe et Zélée, in being less angular anteriorly, and in having the umbonal ridge less strongly developed.

Thracia corbulopsis, pl. 3, fig. 1. Shell nearly equilateral, beaks small, slightly curved anteriorly, umbones prominent and rounded, umbonal ridge angular, and extends to the margin of the shell; anterior end rounded, posterior acutely angular; surface marked by numerous fine concentric lines.

Venus D'Orbignyanus, pl. 3, fig. 2. Shell inequilateral, somewhat convex, beaks small and inclined anteriorly, umbones large and rounded; cardinal margin curved; anterior end rounded, posterior subangular; surface marked by strong concentric lines. This species resembles, in its outline, the common V. mercenaria, (M. violacea) of our coast. It differs from V. Auca *d'Orb.* in having the cardinal margin more strongly curved, in being more angular posteriorly, and in not being so regularly marked on the surface.

Pinna minuta, pl. 3, fig. 10. Shell small, robust, narrow; umbonal ridge subangular and nearly parallel with the cardinal line; cardinal and basal margins straight; posterior end sub-biangular; surface marked by strong lines of growth.

Modiola cretacea, pl. 3, fig. 3. Shell small; beaks small, anterior; umbonal ridge rounded, continued to the posterior basal margin, gradually losing itself in the general curve of the shell, cardinal line arcuate, basal edge sinuous; surface concentrically striate.

Anomia parva, pl. 3, fig. 15. Shell thin, orbicular, very slightly convex, pearly; beak small but acute; surface marked by concentric undulations, crossed by delicate radiating lines.